VIRGINIA AQUATIC RESOURCES TRUST FUND
ANNUAL REPORT - 2007

May 12, 2008

This document serves as the required annual reporting of the status and activities of the Virginia Aquatic Resources Trust Fund (Fund) through December 31, 2007. The report includes a summary of the permitted impacts and associated mitigation payments and the projects to mitigate those impacts since the initiation of the Fund. This report updates the 2006 annual report and details specific activity conducted by the program in 2007.

The information is divided into the following sections:

- **Executive Summary** – provides a general overview of the information in the report
- **I. Introduction** – provides general information and background about the program and a summary of the status of impacts, mitigation payments, and funds authorized since the initiation of the Fund
- **II. Impacts, Revenues, and Operational Costs** – provides the distribution of impacts and mitigation payments by river basin and resource type and a summary of other revenues and operational costs
- **III. Summary of 2007 Impact and Mitigation Payments, Project Proposals, and Funding Authorizations** – provides a summary of the impact and mitigation payments, proposed projects, and funds authorized during 2007
- **IV. Mitigation Overview** – provides information concerning mitigation goals and general procedures
- **V. Mitigation Projects** – provides details of the mitigation projects for which funds have been proposed and authorized
- **VI. Future Priorities** – identifies future goals and needs of the Fund
- **Attachment A**. Map of Project Locations within River Basins
- **Attachment B**. Map of Northwest River Conservation Corridor
- **Attachment C**. Approved Project Table
- **Attachment D**. Approved Project Summaries within River Basins

Executive Summary

The Virginia Aquatic Resources Trust Fund (Fund) is administered in partnership by The Nature Conservancy of Virginia (the Conservancy) and the Norfolk District United States Army Corps of Engineers (Corps) to provide compensatory mitigation for permitted wetland and stream impacts in Virginia through an in-lieu-fee (ILF) agreement. The Fund provides one option for a permit applicant to address compensatory mitigation requirements associated with Section 404 and 401/Virginia Water Protection permits issued by the Corps and the Virginia Department of Environmental Quality (DEQ), respectively. By consolidating the mitigation requirements of multiple small projects, the Fund is able to implement large-scale watershed efforts that restore, enhance, and protect water quality. The Fund attempts to maximize the ecological benefits of compensatory mitigation by locating mitigation projects in identified conservation priority areas within each watershed. For instance, many of the Fund's mitigation projects have been integrated into areas identified by the Conservancy's overall Conservation by Design strategy as important to protect the rare plants, animals, and natural communities of Virginia.

A primary goal of the Fund is to ensure a "no net loss" of acreage, functions, and values for compensatory mitigation completed for impacts to aquatic resources of the same type and within the same watershed as the impacts. This watershed approach is implemented through the program goal to mitigate for permitted impacts through the completion of projects located in the same major river basin as the impacts. The fourteen major river basins used for this approach are the Atlantic Ocean, Big Sandy, Chesapeake Bay, Chowan River, Lower James River, Middle James River, Upper James River, New River, Potomac River, Rappahannock River, Roanoke River, Shenandoah River, Tennessee River, and York River. Each basin is composed of the 8-digit hydrologic unit codes (HUC) with the exception that the Chesapeake Bay HUC's and Atlantic Ocean HUC are separated for the purposes of the Fund reporting.

Through December 31, 2007, the Fund has been used to mitigate for non-tidal wetland, tidal wetland, and stream impacts in the fourteen major river basins in Virginia. These impacts have generated $47,832,909.56 in mitigation payments as summarized in the table below. From these mitigation payments, the Corps has authorized $24,693,132.81 for the Conservancy to complete activities on 81 potential mitigation projects. The Conservancy is actively pursuing mitigation activities on 73 of these sites in twelve of the major river basins. In addition to the mitigation payments and authorized funds to complete mitigation projects, as of December 31, 2007, the Fund has generated $3,892,979.11 in interest, and has incurred total authorized costs of $2,211,853.04 to fund staff positions, general equipment, and overhead and bank fee charges.

Table 1: Summary of Impacts, Mitigation Payments, and Funds Authorized from 1995-2007

Resource Type	Impacts	Mitigation Payments ($)	Authorized Funds ($)
Non-tidal Wetland	224.03 acres	18,794,976.14	9,132,503.32
Tidal Wetland	2.03 acres	366,201.84	399,318.50
Stream	161,787.05 linear feet	24,747,715.05	15,161,310.99
Stream (USM)	9,194.00 linear feet	3,924,016.52	0.00
	Totals	**47,832,909.56**	**24,693,132.81**

The following table details the number of payments made to the Fund each year for each resource type since its inception in 1995.

Table 2: Summary of Payments into the Fund

Year	Non-tidal Wetland	Tidal Wetland	Stream
1995	2	0	0
1996	13	3	0
1997	16	6	0
1998	21	4	0
1999	22	13	0
2000	31	4	0
2001	54	4	6
2002	88	8	3
2003	88	5	3
2004	57	5	57
2005	48	2	88
2006	43	6	87
2007	31	0	42
Total	**514**	**60**	**286**

The following table details allocated funds that have been unallocated or returned to the general balance of the Fund. Following closure of seventeen projects, $173,889.45 was unallocated. Land sales associated with eight projects returned $745,264.79 to the Fund. In total, $919,154.24 of authorized funds has been returned to the general Fund balance.

Table 3: Summary of Authorized Funds Returned to General Balance or Unallocated

Number of Projects	Amount Approved ($)	Balance Returned or Unallocated ($)	Reason for Return
17	543,009.50	173,889.45	Project closure
8	1,773,576.00	745,264.79	Land sales
25	**2,316,585.50**	**919,154.24**	**Total**

In 2007, the Conservancy requested funding to complete various mitigation activities, including full restoration expenses, land acquisition, appraisals, feasibility studies, and surveys, for 24 projects. These projects included mitigation opportunities for non-tidal and tidal wetlands and streams across ten of the thirteen major river basins. The Corps granted funding approval for 21 of the projects. In addition to the projects proposed and approved in 2007, the Corps approved four additional projects the Conservancy had previously proposed in 2006.

The 81 approved projects are in various stages of completion. For example, a significant number of projects were approved during 2006 and 2007. Many of these projects are pending the closure of land deals or easements, require delineations or surface water assessments, or are in the initial planning stages for restoration or enhancement activities. In addition to the recently approved projects, many of the older projects are pending official closure by the Conservancy with approval by the Corps. Therefore, acreages, linear footages, and funding values included in this report are often estimates and may require clarification in future reports.

Table 4: Status of Approved Projects

Project status	Non-tidal Wetland	Tidal Wetland	Stream	Multiple Resource	Total Number
Active project development	2		3	6	**11**
Acquired/Protected	10		5	7	**22**
Construction Planned 2008	4		6	2	**12**
Constructed/Monitoring	11	2	2	3	**18**
Closed/Mitigation	3	3	4		**10**
Closed without mitigation	3		2	2	**7**
Inactive, pending closure				1	**1**
Total	**33**	**5**	**22**	**21**	**81**

Active project development – currently in negotiations with landowner and/or developing restoration plans.
Acquired/Protected – preservation only projects with land protection deal completed; delineation required to close.
Construction 2008 – restoration plans complete or underway for 2008 implementation of mitigation activities.
Constructed/Monitoring – restoration activities are complete, project in monitoring phase (up to 10 years)
Closed/Mitigation – project has been officially closed and mitigation credit assigned.
Closed w/o Mitigation – project has been officially closed and did not provide any mitigation credit (appraisal, feasibility, project withdrawn).
Inactive – project is no longer moving forward and will be closed w/o credit

Expenditures from the Fund follow the progress of each mitigation project. Some of these projects are completed quickly, as in the scenario of preservation projects. However, many of these projects involve restoration and monitoring and occur over a number of years. The majority of restoration projects funded are proposed to have monitoring for up to ten years following completion of restoration activities and the planning period may take several years. The following table provides information about the payments from the Fund to complete the mitigation activities approved by the Corps on an annual basis.

Table 5: Summary of Yearly Expenditures

Year	Expenditures ($)
1995	16.00
1996	37,442.06
1997	173,692.46
1998	320,595.75
1999	40,180.31
2000	824,016.05
2001	681,946.80
2002	1,184,821.04
2003	551,378.92
2004	1,239,880.66
2005	1,110,749.47
2006	2,615,708.97
2007	5,991,699.45
Total	**14,772,127.94**

The following is intended to provide general information about the Fund. The areas of focus

include impacts and finances, non-tidal wetland summary, tidal wetland summary, and stream summary. Much of the information is provided in a tabular format for ease in review. The information is provided on a program-wide level and by river basin for each resource type. Although condensing the Fund's activities into programmatic categories may be informative, it is important to note that the Fund seeks to provide the appropriate compensatory mitigation for each aquatic resource within each river basin. In order to get the full understanding regarding impacts, mitigation funds, authorized funds, and compensatory mitigation for each basin, please refer to the detailed information contained in the rest of this report.

Of the 61 active projects, 54 projects include mitigation activities to address non-tidal wetland impacts; ten projects include mitigation activities to address tidal wetland impacts; and 38 projects include mitigation activities to address stream impacts. The mitigation sites are permanently protected typically through recordation of a conservation easement or ownership by the Conservancy. Alternative protection methods may be implemented with approval by the Corps.

The following table summarizes the funds authorized by the Corps according to resource type and major river basin. All major river basins in Virginia have had funds authorized towards mitigation projects, except for the Big Sandy River and New River basins. Until recently, the Fund has not been used as a mitigation option in those basins.

Table 6: Authorized Funds Per Resource Type and Basin

Basin	Funds Authorized			
	Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)	Total ($)
Atlantic Ocean	0.00	206,350.00	0.00	206,350.00
Chesapeake Bay	852,291.59	78,652.25	134,038.00	1,064,981.84
Chowan	2,576,945.23	52,666.25	0.00	2,629,611.48
Lower James	2,828,916.00	50,650.00	356,082.00	3,235,648.00
Middle James	493,200.00	0.00	4,055,323.00	4,548,523.00
Upper James	127,999.00	0.00	149,009.00	277,008.00
Potomac	435,819.50	0.00	4,350,254.50	4,786,074.00
Rappahannock	337,632.00	10,000.00	2,119,013.49	2,466,645.49
Roanoke	10,075.00	0.00	213,325.00	223,400.00
Shenandoah	0.00	0.00	3,107,284.00	3,107,284.00
Tennessee	42,000.00	0.00	315,000.00	357,000.00
York	1,427,625.00	1,000.00	361,982.00	1,790,607.00
Totals	**9,132,503.32**	**399,318.50**	**15,161,310.99**	**24,693,132.81**

Non-Tidal Wetland Summary

The following tables provide summary information of Fund activity relating to non-tidal wetlands. The first two tables provide the total impacts (acres), mitigation payments, authorized funds, the remaining balance of available funds, the mitigation liability (credits), mitigation activities being pursued (acres), and the associated proposed credits for non-tidal wetlands. The

last table provides a summary of the non-tidal wetland impacts (acres) and associated credit liability as well as the proposed wetland mitigation credits, acres, and additional protected acres for each major river basin.

Table 7: Non-Tidal Wetland Impact and Financial Summary

Impacts (ac)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)	Mitigation Liability (Credits)
224.03	$18,794,976.14	$9,132,503.32	$9,662,472.82	403.20

Table 8: Non-Tidal Wetland Mitigation Activity Summary

Non-Tidal Wetland Mitigation Activities (Acres)					Sum of	Sum of
Wetland Restoration	Wetland Enhancement	Wetlands Preservation	Upland Restoration	Upland Preservation	Mitigation Acres	Mitigation Credits
482.39	27.31	3,042.47	217.05	820.99	4,588.44	851.26

Table 9: Non-Tidal Mitigation Activity Summary Based on Major River Basin

Basin	Impacts (Acres)	Mitigation Liability (Credits)	Proposed Mitigation (Credits)	Credit Balance (Credits)	Proposed Mitigation (Acres)	Additional Protected Acreage
Atlantic Ocean	0.54	1.05	0.00	-1.05	0.00	0.00
Big Sandy	0.11	0.15	0.00	-0.15	0.00	0.00
Chesapeake Bay	43.46	82.13	98.06	15.93	850.81	109.64
Chowan River	33.44	59.92	378.30	318.38	1,765.02	0.00
Lower James River	70.32	132.69	199.59	66.9	1,068.18	514.00
Middle James River	20.06	37.00	25.96	-11.04	94.50	513.32
Upper James River	3.10	5.08	4.21	-0.87	13.99	0.00
New River	0.68	0.72	0.00	-0.72	0.00	0.00
Potomac River	7.09	10.98	25.58	14.6	159.26	0.00
Rappahannock River	9.91	18.98	9.95	-9.03	84.30	250.80
Roanoke River	3.98	6.94	0.00	-6.94	0.00	0.00
Shenandoah River	7.69	9.41	1.10	-8.31	11.00	0.00
Tennessee River	16.26	24.62	1.57	-23.05	6.12	0.00
York River	9.07	17.24	107.08	89.84	535.06	162.32
Total	**224.03**	**403.20**	**851.4**	**444.49**	**4588.44**	**1550.08**

Though impacts have occurred in all fourteen major river basins, historically, the majority of non-tidal wetland impacts (greater than 20 acres) and mitigation payments have accumulated in the following basins: Chesapeake Bay, Chowan River, Lower James River, and Middle James River. Moderate impacts and mitigation payments have accumulated in the Potomac River, Rappahannock River, York River, Shenandoah River, and Tennessee River Basins. Relatively few impacts (less than 5 acres) and associated payments have been received in the Atlantic Ocean, Big Sandy River, Upper James River, New River, and Roanoke River Basins. Roughly three quarters of all impacts were to palustrine forested wetlands, with the remaining quarter split among emergent and shrub-scrub wetland types.

Table 10: Summary of Non-Tidal Restoration Activities

Site ID	Name	Basin	Planning	Restoration Constructed	Upland Buffer	Enhance-ment	Proposed Credits
CB-1	Dameron Marsh (Smith 1)	CB		15.88	21.33		17.30
CH-3	Dismal Swamp (Bruff)	CH		3.07	6.93		3.53
CH-5	Northwest River (Benefits)	CH		11.96		15.02	16.97
CH-6	Northwest River (Hall)	CH		25.00	2.00		25.13
CH-7	Nawney Creek (Knight)	CH		8.00	10.00		8.67
CH-8	Northwest River (Su)	CH		49.00	4.00		49.27
CH-9 /LJ-4	Northwest River (Stephens)	CH		61.00	10.00		61.67
CH-10	Northwest River (Powers)	CH		25.25	0.50		25.28
CH-11	Nawney Creek (Fentress)	CH		19.00	3.79		19.25
LJ-1	Chickahominy River (Walters)	LJ		20.00	23.00		21.53
LJ-4 /CH-9	Northwest River (Stephens)	LJ		61.00	10.00		61.67
MJ-1	Rivanna River (Lamb)	MJ		20.00	26.00		21.73
PO-1	Caledon (Nash)	PO		10.00	26.38		11.76
TN-3	Barns Chapel (Atwell)	TN				4.01	1.34
YK-2	Mattaponi River (Gwathmey)	YK		67.50	33.00	2.50	70.53
YK-5	Cumberland Marsh (Healthvest, Inc.)	YK		1.90			1.90
YK-7	Mattaponi River (Gwathmey 3)	YK		1.74	2.01		1.87
The following five sites have been acquired, but are still in the planning/permitting stage prior to construction. The acreages provided here are estimates of each proposed activity.							
CB-10	East River (Brooks/Ober)	CB	12.50		4.20		12.78
CH-13	Northwest River (SP Forests, LLC)	CH	27.50				27.50
LJ-7	Great Dismal Swamp NW Section (Jacobson)	LJ	30.00		24.00	2.50	32.43
UJ-1	Warm Springs Mountain/Cowpasture River (Phillips)	UJ	3.09		3.91	1.78	3.94
PO-5	Goose Creek (Bluewildlife)	PO	5.00			1.50	5.50
		Total	**78.09**	**400.30**	**211.05**	**27.31**	**501.56**

Non-tidal wetland mitigation requirements are largely addressed by mitigation projects in key

basins with the greatest impacts such as the Lower James River, Chowan River and York River, as summarized in the following table. However, there are several basins in which mitigation projects are needed. These basins include the Tennessee River, Rappahannock River, Roanoke River, and Shenandoah River. For one project in the Roanoke River Basin (RO-3) involving non-tidal wetland mitigation (as well as stream mitigation) a feasibility study has been funded, and the Conservancy is currently pursuing development of restoration activities at this site. In addition, the Conservancy proposed an extensive non-tidal wetland restoration project in the Rappahannock Basin in 2007 and expects approval to be granted by the Corps in early 2008.

In total, at the end of 2007, the Fund has constructed 400 acres of wetlands and has proposed to construct another 78 acres in 2008. In addition, over 27 acres of wetlands have been enhanced through Fund activity and 211 acres of upland buffer have been restored. Given that 224.03 acres of non-tidal wetland impacts have paid into the Fund, the proposed credits, 501.56, of the restoration activities alone will satisfactorily mitigate for no net loss of these impacts.

Tidal Wetland Summary

The following tables provide summary information of Fund activity relating to tidal wetlands. The first two tables provide the total impacts, mitigation payments, authorized funds, the remaining balance of available funds, the mitigation liability (expressed as credits), mitigation activities being pursued (expressed as acres), and the associated proposed credits for tidal wetlands on a program-wide basis. The last table provides a summary of the non-tidal wetland impacts (acres) and associated credit liability as well as the proposed wetland mitigation credits, acres, and additional protected acres for each major river basin.

Table 11: Tidal Wetland Impact and Financial Summary

Impacts (ac)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)	Mitigation Liability (Credits)
2.03	$366,201.00	$399,318.50	-$33,116.66	2.03

Table 12: Tidal Wetland Mitigation Activity Summary

Tidal Wetland Mitigation Activities (Acres)					Sum of	Sum of
Wetland Restoration	SAV Restoration	Oyster Restoration	Tidal Enhancement	Tidal Preservation	Mitigation Acres	Mitigation Credits
3.4	10.00	3.52	220.00	115.32	352.24	22.04

Table 13: Tidal Mitigation Activity Summary Based on Major River Basin

Basin	Impacts (Acres)	Mitigation Liability (Credits)	Proposed Mitigation (Credits)	Credit Balance (Credits)	Proposed Mitigation (Acres)
Atlantic Ocean	1.01	1.01	2.64	1.63	13.18
Chesapeake Bay	0.47	0.47	12.93	12.46	185.32
Chowan River	0.01	0.01	1.40	1.39	70.00
Lower James River	0.43	0.43	0.07	-0.36	0.34
Potomac River	0.11	0.11	0.00	-.11	0.00
Rappahannock River	0.00	0.00	1.60	1.60	80.00
York River	0.00	0.00	3.40	3.40	3.40
Total	**2.03**	**2.03**	**22.04**	**20.01**	**352.24**

Through the end of 2007, tidal impacts have been paid into the Fund from all tidally influenced basins except the Rappahannock River Basin. Tidal impacts are in general very small and infrequently accrued into the Fund. Most tidal impacts paid into the Fund have occurred in the Atlantic Ocean Basin (1 acre), accounting for half of all tidal impacts amassed by the Fund. The majority of tidal wetland impacts occurred to estuarine emergent (e.g. salt-marsh) wetlands although open water/unconsolidated bottom impacts accounted for roughly a quarter of the impacted acres.

A number of projects with tidal mitigation components have been approved through the Fund, including three that involve innovative restoration efforts (SAV restoration and oyster reef restoration). However, tidal salt marsh restoration or creation is lacking across all basins in which mitigation payments have been received. Although the restoration efforts funded to date are not inferior they do result in mitigation that is "out-of-kind" and these projects are subjected to higher ratios. Therefore, tidal salt marsh restoration and/or creation will remain a priority, especially for the Atlantic Ocean, Chesapeake Bay, and Lower James River basins which have accumulated the greatest amount of tidal salt marsh impacts.

Stream Summary

The following tables provide summary information of the Fund activities for streams. The first table provides a summary of the total linear feet of impacts and associated finance information for streams on a program-wide basis. The second table summarizes the total linear footage of each mitigation activity the Fund is pursuing through the approved 38 projects on a program-wide basis. For a broad overview of Fund activity, stream mitigation activities are divided into the following four general categories: channel restoration / enhancement (projects may include riparian buffer planting); riparian buffer planting (projects do not have channel or bank work); livestock exclusion; and stream and/or riparian buffer Preservation. The third table summaries the total impact length, linear footage of each mitigation activity, total channel length in the mitigation area, stream mitigation acreage, and the additional protected acreage for the approved stream projects for each major river basin.

As noted in both the second and third tables, multiple mitigation activities are completed along the same channel length for several projects. For example, riparian buffer planting and livestock exclusion activities are conducted along the same 2,000 linear foot length of stream channel for a project in the Rappahannock River Basin. The third table identifies these areas of multiple mitigation activities. Detailed descriptions of the mitigation activities (with associated buffer widths, as appropriate) for each project are included in the report.

Table 14: Stream Impact and Financial Summary.

Impacts (linear feet)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)
170,981	28,671,731.57	15,161,310.00	13,510,421.57

Table 15: Stream Mitigation Activity Summary.

Stream Mitigation Activity (linear feet)				Total Channel Length in Mitigation Area (linear feet)
Channel Restoration / Enhancement (may include buffer planting)	Riparian Buffer Planting (no channel or bank work)	Livestock Exclusion	Stream and/or Riparian Buffer Preservation	
41,654	9,700	23,799	429,681	**504,834**
For several projects, multiple mitigation activities are completed along the same channel length (e.g., Riparian Buffer Planting and Livestock Exclusion).				

Table 16: Stream Mitigation Activity Summary Based on Major River Basin.

Basin	Impacts (lf)	Stream Mitigation Activity (lf)				Total Channel Length in Mitigation Area (lf)	Stream Mitigation Area (ac)	Additional Protected Acreage
		Channel Restoration / Enhancement (may include buffer planting)	Riparian Buffer Planting (no channel or bank work)	Livestock Exclusion	Stream and/or Riparian Buffer Preservation			
Atlantic Ocean	0	0	0	0	0	0	0.00	0.00
Big Sandy	3,006	0	0	0	0	0	0.00	0.00
Chesapeake Bay	1399	0	0	0	11,168	11,168	40.51	NTW
Chowan River	911	0	0	0	0	0	0.00	0.00
Lower James River	21,338	1,071	0	0	0	1,071	3.24	0.00
Middle James River	28,735	10,181	6,000	0	43,520	59,711	633.16	NTW
Upper James River	0	0	0	0	7,445	7,445	104.4	0.00
New River	3,078	0	0	0	0	0	0.00	0.00
Potomac River [1]	72,367	18,277	0	8,477	100	19,027	76.04	77.00
Rappahannock River [2, 3]	14,936	0	2,000	7,742	304,297	312,039	1,281.38	2,978.62
Roanoke River	6,142	0	0	0	6,008	6,008	40.46	26.29
Shenandoah River	12,428	0	1,700	0	33,915	40,360	508.5	1,186.00
Tennessee River [4, 5]	5,359	1,580	0	7,580	6,000	7,580	22.20	284.50
York River	1,282	5,800	0	0	17,228	23,028	219.12	132.72
Totals	**170,981**	**41,654**	**9,700**	**23,799**	**429,681**	**504,834**	**2,929.01**	**4,743.25**

Linear footages and acreages included in this table include estimates which may be changed in future reports, as the projects are in various phases of completion.

lf - linear feet

ac - acre

NTW - Additional Protected Acreage is reported under the non-tidal wetland summary

1 - Two projects include both Channel Restoration/Enhancement and Livestock Exclusion activities along the same channel length (950 lf; 6,877 lf)

2 - The Rappahannock River Fish Passage project is not included in the table

3 - One project includes both Riparian Buffer Planting and Livestock Exclusion along the same channel length (2,000 lf)

4 - One project includes both Livestock Exclusion and Stream and/or Riparian Buffer Preservation activities along the same channel length (6,000 lf)

5 - One project includes both Channel Restoration/Enhancement and Livestock Exclusion activities along the same channel length (1,580 lf)

Mitigation Area refers to linear footage and/or acreage included under a "no-touch" buffer

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture)

Through the end of 2007, the Fund has been used to mitigate for impacts to streams in all basins

except for the Atlantic Ocean and the Upper James River Basins. The majority of stream impacts utilizing the Fund for mitigation have occurred in the Potomac River Basin, which has accrued more than three times any other basin, with over 72,000 linear feet of impacts. Additional basins with high impacts include the Middle James River, Lower James River, Shenandoah River, and Rappahannock River Basins. The Fund has been used to mitigate for relatively few impacts (less than 7,000 lf) in the Chesapeake Bay, Chowan River, New River, Roanoke River, and York River Basins.

Appropriately, the Conservancy has focused on the basins with greatest impacts to identify and propose stream mitigation projects. Projects have been identified and approved in four of the five basins of greatest mitigation need in 2007, and several additional projects are in development or have been proposed and are awaiting a decision from the Corps. The Potomac River Basin remains a top priority for stream mitigation projects. However, the Conservancy has made significant strides in identifying and proposing projects in this basin, including a large restoration project approved in 2007 (PO-5). For this basin, the Conservancy is currently working with state and local governments to purchase a large tract with significant stream preservation opportunities. The Conservancy anticipates proposing this project in early 2008.

Conservancy Focus

In addition to the compensatory mitigation provided by the approved wetland and stream projects, many of the projects greatly contribute to the protection of Virginia's rare plants, animals, and natural communities. Utilizing Conservation by Design, mitigation sites are often located within a conservation framework that provide greater ecological benefit than would an isolated project with the same mitigation activities. The projects are often part of an on-going conservation initiation with comprehensive ecological management plans. The large size of many of the projects (including both the mitigation areas and additional protected acreage) provide significant habitat for wildlife that depend upon large, contiguous forest blocks while providing additional buffering protection for aquatic resources. These projects also provide corridors to connect preserved properties or surround and buffer a critical area. Many of the project sites are listed habitat sites for state and/or federal threatened or endangered species and have documented occurrences of the Virginia Department of Conservation and Recreation Natural Heritage Elements. In addition, many of the projects provide direct and indirect improvements to impaired systems, such as TMDL listed streams, or added protection to large or significant resource systems, including the Clinch River, Great Dismal Swamp, and the Chesapeake Bay watershed. Several sites also have significant historic or cultural resource preservation benefits or protect unique natural features.

The following is a compiled listing of the rare species, natural communities, and unique natural features that could potentially benefit from the approved mitigation projects of the Fund, through water quality improvement, habitat protection, feeding and nursery habitat protection, and direct enhancement or restoration of the resource. This list was developed utilizing existing conservation planning information, as well as, other data.

Table 17: Conservation Targets

Common Name / Community	***Scientific Name***	**Federal / State Rankings**
sensitive joint vetch	*Aeschynomone virginica*	G2/S2
dwarf wedgemussel	*Alasmidonta heterodon*	G1G2/S1
pearly everlasting	*Anaphalis margaritacea*	G5/S1
Elliott's aster	*Aster puniceus elliottii*	G5T3T4/S1
tropical water-hyssop	*Bacopa innominata*	G3G5/S2
aster-like boltonia	*Boltonia asteroides*	G5/S3
Carolina boltonia	*Boltonia caroliniana*	G4/S2
Carolina fanwort	*Cabomba caroliniana*	G3G5/S1
Price's cave isopod	*Caecidotea pricei*	G3G4/S2S3
hoary elfin	*Callophrys polios*	S1S3
epiphytic sedge	*Carex decomposita*	G3/S2
a sedge	*Carex striata*	G4/S2
Atlantic white cedar	*Chamaecyparis thyoides*	G4/S2
northeastern tiger beetle	*Cicindela dorsalis ssp. dorsalis*	Threatened
sawgrass	*Cladium mariscus var. jamaicense*	G5T5/S1
spreading pogonia	*Cleistes divaricata*	G4/S1
bunchberry	*Cornus Canadensis*	G5/S1
Potomac sculpin	*Cottus bairdi*	Potomac and James restricted
canebrake rattlesnake (coastal plain population)	*Crotalus horridus*	G4TUQ/S1
button-bush dodder	*Cuscuta cephalanthi*	G5/S1
pretty dodder	*Cuscuta indecora*	G5/S2
showy lady's slipper	*Cypripedium reginae*	G4/S1
showy tick-trefoil	*Desmodium canadennse*	G5/S1S2
beaked spikerush	*Eleocharis rostellata*	G5/S3
yellow lance	*Elliptio lanceolata*	G2G3/S2S3
big bluet	*Enallagma durum*	G5/S3
Parker's pipewort	*Eriocaulon parkeri*	G3/S2
longfin darter	*Etheostoma longimanum*	James River endemic
scarce swamp skipper	*Euphyes dukesi*	G3/S2
American peregrine falcon	*Falco peregrinus anatum*	State threatened, DM
Appalachian springsnail	*Fontigens bottimeri*	G2/S1S2/SE
shiny pigtoe	*Fusconaia cor*	G1/S1
fine-rayed pigtoe	*Fusconaia cuneolus*	G1/S1
Atlantic pigtoe	*Fusconaia masoni*	G2/S2
American bald eagle	*Haliaeetus leucocephalus*	G5/S2S3
small whorled pogonia	*Isotria medeoloides*	G2/S2
least bittern	*Ixobrychus exilis*	G5/S2
jointed rush	*Juncus articulatus*	G5/S2
narrow-panicled rush	*Juncus* brevicaudatus	G5/S2
big-head rush	*Juncus megacephalus*	G4G5/S2
ground juniper	*Juniperus communis* var. *depressa*	G5/T5S1
sheep-laurel	*Kalmia angustifolia*	G5/S3
eastern lampmussel	*Lampsilis radiata*	G5/S2S3
green floater	*Lasmigona subviridis*	G3,/S2
birdwing pearly mussel	*Lemiox rimosus*	G1/S1
Common Name / Community	***Scientific Name***	**Federal / State Rankings**
Kemp's Ridley sea turtle	*Lepidochelys kempii*	Endangered

Virginia pigtoe	*Lexingtonia subplana*	G1/S1
Carolina lilaepsis	*Lilaeopsis carolinensis*	G3/S1S2
elongated lobelia	*Lobelia elongata*	G4G5/S1
winged seedbox	*Ludwigia alata*	G3G4/S1
roughhead shiner	*Notropis semperasper*	James River endemic
eastern glass lizard	*Ophisaurus ventralis*	G5/S1
large-leaved grass of parnassus	*Parnassia grandifolia*	G3G4/S2
joint paspalum	*Paspalum distichum*	G5/S1
stripeback darter	*Percina notogramma*	James River endemic
slender-leaved dragon-head	*Physostegia leptophylla*	G4G5/S2
Peaks of Otter salamander	*Plethodon hubrichti*	G2/S2
James River spiny mussel	*Pleurobema collina*	G1
rare skipper	*Problema bulenta*	G2G3/S1 SOC
thin-necked cave beetle	*Pseudanophthalmus parvicollis*	G1S1
rough rabbits foot	*Quadrula cylindrica*	G3T2/S2
Appalachian monkeyface	*Quadrula sparsa*	G1/S1
alderleaf buckthorn	*Rhamnus alnifolia*	G5/S1
capillary beakrush	*Rhynchospora capillacea*	G5/S1S2
hard-stemmed bulrush	*Scirpus acutus*	G5/S1
purple oat-grass	*Schizachne purpurascens*	G5S1
roundleaf clover	*Solidago patula*	G5/S1
Dismal Swamp southeastern shrew	*Sorex longirostris fisheri*	G5T2/S2
sweetscent ladies'-tresses	*Spiranthes odorata*	G5/S3
silky camellia	*Stewarthia malachodendron*	G4/S2
Bigger's Cave amphipod	*Stygobromus biggersi*	G2G4/S1S2
Shenandoah Valley cave amphipod	*Stygobromus gracilipes*	G3G4/S2S3
Spanish moss	*Tillandsia usneoides*	G5/S1
Fraser's marsh St. John's-wort	*Triadenum fraseri*	G5/S1
least trillium	*Trillium pusillum var. virginianum*	G3T3/S2
American black bears	*Ursus americanus*	Threatened
large cranberry	*Vaccinium macrocarpon*	G4/S2
non-riverine saturated forest community		
Appalachian terrestrial dung community		
Appalachian cave drip pool/epikarstic community		
Appalachian cave stream community		
Appalachian cave stream riparian community		
oligotrophic saturated scrub community		
Atlantic white cedar swamp community		
brackish marsh community		
pocosin community		
spruce/fir forest		
high elevation cove forest		

In conclusion, as intended, the mitigation payments for numerous, small impacts have been collectively pooled to provide large scale, ecologically preferable mitigation. As the available balance of the Fund grew, the ability of the program to pursue mitigation projects increased. With the addition of two program staff in 2005, increasing the total program staff to three, the number of approved projects has nearly tripled in the past three years. At the close of 2007, nearly half of the accumulated mitigation payments have been authorized to a diverse array of

non-tidal wetland, tidal wetland, and stream mitigation projects across Virginia. These projects provide a suite of typical wetland and stream restoration, enhancement, and preservation opportunities, as well as, unique projects aimed at improving water quality and/or providing additional ecological benefits. These distinctive projects include the re-establishment of oyster reefs and submerged aquatic vegetation beds and the removal of earthen dams and the installation of a fish passage structure to allow the migration of anadromous fishes. The Conservancy will continue to pursue the appropriate mitigation projects in river basins with mitigation need and available funds.

I. Introduction

The Virginia Aquatic Resources Trust Fund (Fund) is administered in partnership by The Nature Conservancy of Virginia (the Conservancy) and the Norfolk District United States Army Corps of Engineers (Corps) to provide compensatory mitigation for permitted wetland and stream impacts in Virginia through an in-lieu-fee (ILF) agreement. The Fund provides one option for a permit applicant to address compensatory mitigation requirements associated with Section 404 and 401/Virginia Water Protection (VWP) permits issued by the Corps and the Virginia Department of Environmental Quality (DEQ), respectively. By consolidating the mitigation requirements of multiple small projects, the Fund is able to implement large-scale watershed efforts that restore, enhance, and protect water quality. The program is dedicated to providing the greatest compensatory mitigation value, while providing a specific emphasis on the protection of Virginia's rare plants, animals, and natural communities. These additional ecological benefits which may also result in a higher potential for a project's long-term success are achieved, to a large extent, through the Conservancy's conservation planning and implementation efforts. The Fund attempts to maximize the ecological benefits of compensatory mitigation by locating mitigation projects in identified conservation priority areas within each watershed. For instance, many of the Fund's mitigation projects have been integrated into areas identified by the Conservancy's overall Conservation by Design strategy as important to protect the rare plants, animals, and natural communities of Virginia.

The Fund was established in 1995 as the Virginia Wetlands Restoration Trust Fund and operates in accordance with a Memorandum of Understanding (MOU) between the Conservancy and the Corps. The MOU was amended in 2003 to, in part, address impacts to stream resources throughout Virginia. Through the revised MOU, the name of the Fund was changed to the Virginia Aquatic Resources Trust Fund.

As stated in the MOU, a primary goal of the Fund is to ensure a "no net loss" of acreage, functions, and values for compensatory mitigation completed for impacts to aquatic resources of the same type and within the same watershed as the impacts. This watershed approach is implemented through the program goal to mitigate for permitted impacts through the completion of projects located in the same major river basin as the impacts. The fourteen major river basins used for this approach are the Atlantic Ocean, Big Sandy River, Chesapeake Bay, Chowan River, Lower James River, Middle James River, Upper James River, New River, Potomac River, Rappahannock River, Roanoke River, Shenandoah River, Tennessee River, and York River. Each basin is composed of the 8-digit hydrologic unit codes (HUC), with the exception that the Chesapeake Bay HUC's and Atlantic Ocean HUC are separated for the purposes of the Fund reporting. The partnership with the Conservancy facilitates the overall and primary operational concept of the Fund which is to efficiently use the mitigation payments from many small impacts to provide large, cost-effective, and ecologically preferable mitigation projects.

The Fund is typically used to mitigate for impacts to less than three acres of wetlands and/or less than 2,000 lf of stream channel. The Fund is also used to provide mitigation for unauthorized impacts as directed by the agencies. The authority of a permit applicant to use the Fund as the selected mitigation option is at the discretion of the regulatory agencies. The Corps determines the amount of the permit applicant's mitigation payment required to provide the appropriate mitigation for the permitted impact. The mitigation payments are held by the Conservancy in an interest-generating account. These payments are then used by the Conservancy to complete the required stream and/or wetland mitigation. Potential projects are proposed by the Conservancy, and Corps approval of both the proposed project and the requested funding amount is required

prior to the initiation of formal activities on the project. Potential and proposed projects are also coordinated with DEQ and United States Fish and Wildlife Service (FWS) during a monthly agency meeting.

The mitigation sites are permanently protected typically through recordation of a conservation easement or ownership by the Conservancy. Alternative protection methods may be implemented through approval by the Corps. All interest earned and funds not spent on approved projects following project closure remain in the general balance of the Fund.

The VWP Permit Regulation (9VAC 25-210-115 E) defines the criteria for DEQ's approval of an ILF program. In accordance with this regulation, DEQ, acting on behalf of the State Water Control Board (Board), may approve the use of an ILF fund program by approving the use of a fund for a specific project when approving a VWP Permit or by granting approval of a fund at a Board meeting. In a conditional letter dated January 31, 2007, DEQ granted approval for the use of the Fund as a compensatory mitigation option for stream and wetland impacts permitted under the VWP Permit Program through June 30, 2008. The above-referenced regulation also requires the submittal of annual reports to the Board detailing the activities of the ILF program. This report is intended to fulfill this regulatory requirement.

Through December 31, 2007, the Fund has been used to mitigate for non-tidal wetland, tidal wetland, and stream impacts in the fourteen major river basins in Virginia. These impacts have generated $47,832,909.56 in mitigation payments as summarized in Table 18. From these mitigation payments, the Corps has authorized $24,544,123.81 for the Conservancy to complete activities on 81 potential mitigation projects. The Conservancy is actively pursuing mitigation activities on 73 of these sites in twelve of the major river basins. A map depicting the location of these sites across the state is included in Attachment A.

Table 18: Summary of Impacts, Mitigation Payments, and Funds Authorized from 1995-2007

Resource Type	Impacts	Mitigation Payments ($)	Authorized Funds ($)
Non-tidal Wetland	224.03 acres	18,794,976.14	9,132,503.32
Tidal Wetland	2.029 acres	366,201.84	399,318.50
Stream	161,787.05 linear feet	24,747,715.05	15,161,310.99
Stream (USM)	9,194 linear feet	3,924,016.52	0.00
	Totals	**47,832,909.56**	**24,693,132.81**

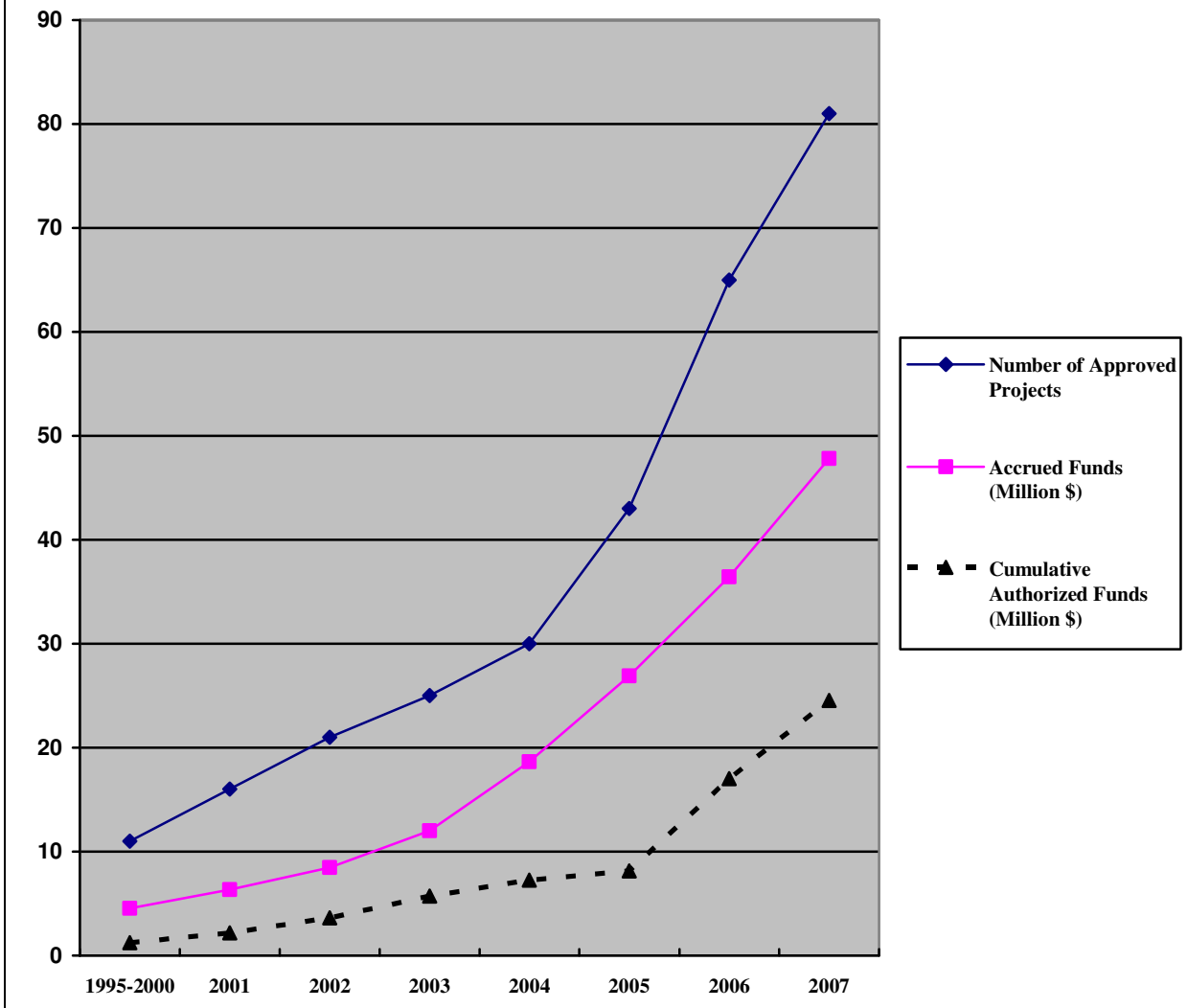
Table 19 details the number of payments made to the Fund each year for each resource type since its inception in 1995.

Table 19: Summary of Payments into the Fund

Year	Non-tidal Wetland	Tidal Wetland	Stream
1995	2	0	0
1996	13	3	0
1997	16	6	0
1998	21	4	0
1999	22	13	0
2000	31	4	0
2001	54	4	6
2002	88	8	3
2003	88	5	3
2004	57	5	57
2005	48	2	88
2006	43	6	87
2007	31	0	42
Total	**514**	**60**	**286**

The figure below depicts the activity and growth of the Fund over the course of its operation. As intended, the mitigation payments for numerous, small impacts have been collectively pooled to provide large scale, ecologically preferable mitigation. As the available balance of the Fund grew, the ability of the program to pursue mitigation projects increased. With the addition of two program staff in 2005, increasing the total program staff to three, the number of approved projects has nearly tripled in the past three years. At the close of 2007, over half of the accumulated mitigation payments have been authorized to a diverse array of non-tidal wetland, tidal wetland, and stream mitigation projects across Virginia. These projects provide a suite of typical wetland and stream restoration, enhancement, and preservation opportunities, as well as unique projects aimed at improving water quality and/or providing additional ecological benefits. These distinctive projects include the re-establishment of oyster reefs and submerged aquatic vegetation beds and the removal of earthen dams and the installation of a fish passage structure to allow the migration of anadromous fishes.

Figure 1: Comparison of Accrued Funds, Approved Projects and Authorized Funds



II. Impacts, Revenues, and Operational Costs

This section provides a summary of impacts and associated mitigation payments for all three resource types (non-tidal wetland, tidal wetland, and stream) as both an annual total and cumulatively by major river basin. Additional program revenues and operational costs are also detailed in this section.

Impacts and Associated Mitigation Payments

The following details the impacts and associated mitigation payments for non-tidal wetlands, tidal wetlands, and streams.

Non-Tidal Wetlands

Tables 20 and 21 provide the impact and mitigation payment summaries for non-tidal wetlands. In total, the Fund has been used to mitigate for non-tidal impacts each year since its inception. As of the end of 2007, the Fund has been used to mitigate for 224.03 acres of non-tidal wetland impacts across all fourteen major river basins. These impacts have generated total mitigation payments of $18,794,976.14 to the Fund for non-tidal wetlands.

Table 20: Non-tidal Wetland Impacts and Mitigation Payments by Year

Year	Impacts	Mitigation Payments
1995	2.90	65,000.00
1996	20.52	460,225.00
1997	26.0	1,305,486.00
1998	16.265	779,260.40
1999	13.920	967,583.10
2000	7.355	835,342.56
2001	12.099	1,243,900.72
2002	20.026	1,996,644.16
2003	28.366	3,233,167.54
2004	30.319	1,978,550.18
2005	6.688	830,140.70
2006	17.386	1,961,567.78
2007	22.186	3,138,108.00
Total	**224.03**	**18,794,976.14**

A summary of non-tidal wetland impacts, wetland impact type, and mitigation payments by basin is provided in Table 22. Impacts have occurred in all fourteen major river basins. Historically, the majority of non-tidal wetland impacts (greater than 20 acres) and mitigation payments have accumulated in the following basins: Chesapeake Bay, Chowan River, Lower James River, and Middle James River. Moderate impacts and mitigation payments have accumulated in the Potomac River, Rappahannock River, York River, Shenandoah River, and Tennessee River Basins. Relatively few impacts (less than 5 acres) and associated payments have been received in the Atlantic Ocean, Big Sandy, Upper James River, New River, and Roanoke River Basins. Roughly three quarters of all impacts were to palustrine forested wetlands, with the remaining quarter split among emergent and shrub-scrub wetland types.

Table 22: Non-tidal Wetland Impacts and Mitigation Payments by Basin

	Non-Tidal Wetland Type Impacted				
Basin	**PEM or POW (ac)**	**PSS (ac)**	**PFO (ac)**	**Total Impacts (ac)**	**Mitigation Payments ($)**
Atlantic Ocean	0.03	0.00	0.51	.54	60,878.80
Big Sandy	0.02	0.09	0.00	.11	8,046.00
Chesapeake Bay	3.92	1.75	36.11	41.78	5,545,353.25
Chowan	5.39	3.14	24.91	33.44	1,065,838.66
Lower James	6.44	3.07	60.81	70.32	4,588,771.51
Middle James	1.69	2.87	15.50	20.05	1,709,656.77
Upper James	1.01	0.21	1.88	3.10	143,301.48
New	1.88	0.08	0.00	1.96	123,946.47
Potomac	2.97	0.47	3.66	7.09	1,242,457.71
Rappahannock	0.82	0.00	9.08	9.90	1,445,694.20
Roanoke	0.79	0.49	2.71	3.99	317,877.48
Shenandoah	5.47	0.50	1.72	7.69	709,355.63
Tennessee	0.57	12.72	1.69	14,98	668,499.60
York	0.70	0.41	7.99	9.10	1,165,298.58
Total	**31.70**	**25.87**	**166.57**	**224.03**	**18,794,976.14**

Tidal Wetlands

Tables 23 and 24 provide the impact and mitigation payment summaries for tidal wetland resources. The Fund has been used to mitigate for impacts to tidal wetlands each year since 1996. As of the end of 2007, the Fund has been used to mitigate for 2.029 acres of tidal wetland impacts across six major river basins. These impacts have generated total mitigation payments of $366,201.84 to the Fund for tidal wetlands.

Table 23: Tidal Wetland Impacts and Mitigation Payments by Year

Year	Impacts (acres)	Mitigation Payments ($)
1996	0.05	13,000.00
1997	0.259	15,432.00
1998	0.301	47,965.00
1999	0.319	31,884.50
2000	0.092	12,113.01
2001	0.036	11,585.00
2002	0.159	19,327.00
2003	0.060	12,202.00
2004	0.078	33,650.47
2005	0.020	2,683.75
2006	0.656	166,358.92
2007	0.0	0.00
Total	**2.029**	**366,201.84**

A summary of tidal wetland impacts, wetland impact type, and mitigation payments by basin is

provided in Table 24. Through the end of 2007, tidal impacts have been paid into the Fund from all tidally influenced basins except the Rappahannock River Basin. Tidal impacts are in general very small and infrequently accrued into the Fund. Most tidal wetland impacts paid into the Fund have occurred in the Atlantic Ocean Basin (1 acre), accounting for half of all tidal impacts amassed by the Fund. The majority of tidal wetland impacts occurred to estuarine emergent wetlands (e.g. salt-marsh) although open water/unconsolidated bottom impacts accounted for roughly a quarter of the impacted acres.

Table 24: Tidal Wetland Impacts and Mitigation Payments by Basin

	Tidal Wetland Type Impacted			
Basin	**EEM (ac)**	**EOW/UB (ac)**	**Impacts (ac)**	**Mitigation Payments ($)**
Atlantic Ocean	0.781	0.225	1.006	176,704.92
Chesapeake Bay	0.206	0.267	0.473	58,582.31
Chowan	0.014	0.000	0.014	2,137.50
Lower James	0.374	0.052	0.426	88,842.21
Potomac	0.060	0.050	0.110	38,934.90
York	0.000	0.000	0.000	1,000.00
Total	**1.435**	**0.594**	**2.029**	**366,201.84**

Streams

Tables 25 and 26 provide the impact and mitigation payment summary information for streams. The Fund has been used to mitigate for stream impacts beginning in 2001. However, the majority of the use of the Fund as compensatory mitigation for stream impacts has been since the revision of the MOU in 2003. Beginning in 2007, the Fund began tracking stream impacts as assessed by the Unified Stream Methodology (USM) that was jointly released by the Corps and DEQ, and has tracked these impacts separately for reporting purposes. By the end of 2007, the Fund has been used as mitigation for 170,981 linear feet of stream impacts across twelve of the major river basins. These impacts have generated $28,671,731.57 in total mitigation payments to the Fund for streams.

Table 25: Stream Impacts and Mitigation Payments by Year

Year	**Impacts (linear feet)**	**Mitigation Payments ($)**
2001	5,973	550,285.80
2002	1,115	115,565.40
2003	2,576	274,785.00
2004	40,714	4,646,363.48
2005	55,095	7,422,213.58
2006	41,389	7,377,885.29
2007	14,925	4,360,616.50
2007 (USM)	9,194	3,924,016.52
Total	**170,981**	**28,671,731.57**

A summary of stream impacts and mitigation payments by basin is provided in Table 26. Through the end of 2007, the Fund has been used to mitigate for impacts to streams in all basins except for the Atlantic Ocean and the Upper James River Basins. The Potomac River Basin has

accrued more than twice as much as any other basin, with over 72,000 linear feet of impacts. The Fund has been used to mitigate for a moderately high number of impacts (between 10,000 and 30,000 linear feet) in the Lower James River, Middle James River, Shenandoah River, and Rappahannock River Basins, while relatively few impacts (less than 7,000 lf) have accrued in the Tennessee River Chesapeake Bay, Chowan River, New River, Roanoke River, Big Sandy and York River Basins.

Table 26: Stream Impacts and Mitigation Payments by Basin

Basin	Impacts	Mitigation
Big Sandy	3,006	711,939.00
Chesapeake Bay	1,399	272,568.20
Chowan	911	94,679.20
Lower James	21,338	4,415,320.61
Middle James	28,735	4,973,973.84
New	3,078	290,318.00
Potomac	72,367	10,274,128.38
Rappahannock	14,936	3,994,403.00
Roanoke	6,142	889,505.54
Shenandoah	12,428	1,866,111.00
Tennessee	5,359	725,554.00
York	1,282	163,230.80
Total	**170,981**	**28,671,731.57**

Additional Revenues and Operational Costs

Upon receipt by the Conservancy, the mitigation payments are deposited in an interest generating account. The Conservancy provides the Corps with the account statements within thirty days of the statement issuance date. All earned interest, any remaining authorized funds at project closure, and any proceeds resulting from the sale of a project property (sold with a protective instrument to protect the mitigation area) remain in the Fund to accomplish additional mitigation projects.

Through 2007, the Fund balance generated $3,892,979.11 in interest. These monies are not directly associated with a specific permitted impact; and therefore, are not associated with specific mitigation requirements. Table 9 shows allocated funds that have been unallocated or returned to the general balance of the Fund. Following closure of seventeen projects, $173,889.45 was unallocated. Land sales associated with eight projects returned $745,264.79 to the Fund. In total, $919,154.24 of allocated funds have been returned to the general Fund balance.

Table 27: Summary of Allocated Funds Returned to General Fund Balance or Unallocated

Number of Projects	Amount Approved ($)	Balance Returned or Unallocated ($)	Reason for Return
17	543,009.50	173,889.45	Project closure
8	1,773,576.00	745,264.79	Land sales
25	**2,316,585.50**	**919,154.24**	**Total**

There are currently three staff positions funded by the program. The first staff member was hired in June 2001, and the additional staff was hired in January 2005. As of December 31, 2007, the

Corps has authorized a total of $1,207,441.71 to fund these three positions. The Corps has also authorized $14,589.00 to a general equipment cost center, which has been used to purchase field supplies such as GPS units.

In accordance with the 2003 revised MOU, the Conservancy receives an overhead fee of 3% of each mitigation payment. The original MOU specified a percentage based upon acquisition costs. These funds are used to reimburse overhead and related administrative costs incurred by the Conservancy. Through December 31, 2007, total overhead charges were $995,768.59. Additional bank fees and associated charges through December 31, 2007, totaled $8,642.74.

In summary, as of December 31, 2007, the Fund has generated $3,892,979.11 in interest, and has incurred total costs or authorizations of $2,211,853.04 to fund staff positions, general equipment, and overhead and bank fee charges.

III. Summary of 2007 Impact and Mitigation Payments, Project Proposals, and Funding Authorizations

In 2007, the Fund was used as the compensatory mitigation option for stream and non-tidal wetland impacts in twelve of the major river basins. There were no new impacts paid into the Fund within the Chowan or Upper James River Basins. The Conservancy requested funding to complete mitigation activities for 15 new projects and additional funding for eight previously approved projects. The Corps granted funding approval for 20 of these projects. The Corps also granted approval for four projects that the Conservancy had previously proposed in 2006. One project was withdrawn in 2007. A detailed summary of these activities is provided below. The status of the two remaining proposed projects will be discussed in the 2008 Annual Report.

Impacts and Mitigation Payments

The Fund was used as the compensatory mitigation option for numerous non-tidal wetland, tidal wetland, and stream impacts across the state in 2007. Table 28 details the impacts and mitigation payments that were received by the Fund during this year. The Fund was used to compensate for: 22.186 acres of non-tidal wetland impacts with an average mitigation payment of $141,445.42 per acre; no tidal wetland impacts; and 24,119 linear feet of stream impacts with an average mitigation payment of $343.49 per linear foot. In total, the Fund received $11,422,741.02 in mitigation payments in 2007. This amount accounts for nearly one fourth of the total mitigation payments received by the Fund to date.

Table 28: Impacts and Mitigation Payments in 2007

Resource Type	Impacts	Mitigation Payments ($)
Non-tidal Wetland	22.186 acres	3,138,108.00
Tidal Wetland	0.00 acres	0.00
Stream	24,119 linear feet	8,284,633.02
	Total	**11,422,741.02**

Mitigation Project Proposals and Approvals

As stated in the MOU, the Corps seeks comments from DEQ and the FWS prior to the approval or denial of a specific Fund mitigation proposal. Since 2006, monthly agency meetings have been held for project proposal review and coordination. During these meetings, the Conservancy presents potential projects to the Corps, FWS, and DEQ. These meetings were initiated to provide a forum for discussion and review of the projects, while attempting to streamline the review and coordination process.

Using the watershed approach to implement the program goal to mitigate for permitted impacts through the completion of projects located in the same major river basin as the impacts, the Conservancy routinely identifies river basins which have high mitigation need (impacts which have not been mitigated for through other projects) and available funds. In 2007, targeted efforts were initiated in several basins to provide suitable mitigation sites. The primary target areas for wetlands included the Rappahannock River and Roanoke River Basins. The targeted basins for streams included the Middle James River, Potomac River, and Shenandoah River Basins. These basins represent several of the watersheds with the highest impacts (based on usage of the Fund as the compensatory mitigation option) in the state as shown previously in Section II.

In 2007, the Conservancy requested funding to complete numerous mitigation activities, including full restoration expenses, land acquisition, appraisals, feasibility studies, and surveys, for 24 projects. These projects included mitigation opportunities for non-tidal and tidal wetlands and streams across nine of the major river basins. The Corps granted funding approval for 21 of the projects, and one was withdrawn. In addition to the projects proposed and approved in 2007, the Corps approved four additional projects the Conservancy had previously proposed in 2006. Table 10 provides summary information for the 24 projects approved in 2007.

In 2007, $7,682,683.49 was authorized towards the mitigation activities associated with the 24 approved projects. As demonstrated in the tables and text, the Conservancy successfully identified and proposed significant projects to address the mitigation need in several basins with significant outstanding impacts and available funds.

The authorized funds will complete projects to mitigate for impacts to non-tidal and tidal wetlands and streams across nine major river basins. These approved projects provide a suite of wetland and stream restoration, enhancement, and preservation mitigation opportunities. Many of the projects involve significant stream footage or wetland acreage, and several provide mitigation opportunities for multiple resource types. Of the approved projects, nine provide mitigation for solely stream impacts, eight provide mitigation for solely non-tidal wetland impacts, four provide mitigation for non-tidal wetland and stream impacts, two provide mitigation for non-tidal and tidal wetland impacts, and one provides mitigation for streams, non-tidal and tidal wetlands.

A total of $1,130,380.50 was authorized for non-tidal wetland mitigation projects in seven river basins including Chesapeake Bay, Lower James River, Upper James River, Potomac River, Roanoke River, Rappahannock River, and York River Basins. Money was authorized for three tidal mitigation projects in the Chesapeake Bay and York River Basin ($6,250.00). A total of $6,546,952.99 was authorized for stream projects in seven basins including Lower James River, Middle James River, Potomac River, Roanoke River, Rappahannock River, Shenandoah River, and York River basins.

In addition, through working with various partners, many of the projects contribute to large scale conservation efforts. While providing compensatory mitigation, many of these projects also contribute to the protection of Virginia's rare plants, animals, and natural communities including such highlights as sensitive joint vetch (*Aeschynomene virginica*), pearly everlasting (*Anaphalis margaritacea*), purple oat-grass (*Schizachne purpurascens*), bunchberry (*Cornus canadensis*), Fraser's marsh St. John's-wort (*Triadenum fraseri*) ground juniper (*Juniperus communis* var. *depressa*), American bald eagle (*Haliaeetus leucocephalus*), and American black bear (*Ursus americanus*). Detailed summaries of each project are included in Section V.

Table 29: Projects Approved in 2007

Project ID	Project Name	Resource Type	Purpose of Proposal	Proposal Date	Corps Approval Date	Funds Authorized		
						Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)
PO-4	Goose Creek site	NTW, S	A	01/12/07	1/12/07	750.00	0.00	750.00
PO-2	Dogue Creek site	S	AC	02/09/07	2/22/07	0.00	0.00	12,000.00
CB-10	East River (Brooks/Ober)	NTW	M	01/30/07	2/22/07	192,450.00	0.00	0.00
UJ-1	Warm Springs Mountain / Cowpasture River (Phillips)	NTW	M	02/07/07	2/22/07	105,320.00	0.00	0.00
RP-7	Upper Rappahannock Forest Block (Collawn, R.)	NTW	M	02/02/07	2/22/07	121,316.00	0.00	0.00
RP-8	Upper Rappahannock Forest Block site	NTW	AC	02/02/07	2/22/07	114,816.00	0.00	0.00
LJ-10	James River site	NTW, S	F	05/02/07	8/10/07	21,000.00	0.00	21,000.00
			AC	11/07/07	11/16/07	1,050.00	0.00	1,050.00
CB-8 /YK-4	Upper Crab Neck (BP North America)	NTW	AC	01/30/07	2/22/07	7,120.00	0.00	0.00
RO-3	Goose Creek-Roanoke (Bedford County site)	NTW, S	F	01/31/07	2/22/07	10,075.00	0.00	10,075.00
YK-5	Cumberland Marsh (Heathvest, Inc.)	NTW, S, TW	M	02/07/07	2/22/07	73,375.00	1,000.00	223,127.00
CB-13	Dameron Marsh/Hughlett Point/Fleet Bay site	NTW, TW	A	07/05/07	7/27/07	2,750.00	2,750.00	0.00
PO-5	Goose Creek (Bluewildlife)	NTW, S	M	02/09/07	7/27/07	256,819.50	0.00	1,644,751.50
MJ-4	Southern Shenandoah (Bennett)	S	M	08/01/07	8/10/07	0.00	0.00	12,608.00
CB-14	York Complex (Harris Creek site)	NTW	A	05/07/07	8/10/07	2,500.00	2500.00	0.00
RP-4	Upper Rappahannock (City of Fredericksburg)	S	AC	02/09/07	2/22/07	0.00	0.00	56,479.49
YK-10	Mattaponi River (Bach 2)	NTW	AC	02/07/07	8/10/07	17,567.00	0.00	0.00
RP-9	Rappahannock River (Rose)	NTW	AC	08/06/07	8/10/07	81,000.00	0.00	0.00
CB-15	Dragon Run site	NTW	AC	08/01/07	8/10/07	122,472.00	0.00	0.00
MJ-1	Forks of the Rivanna (Lamb)	S	M	08/02/07	11/19/07	0.00	0.00	336,550.00
MJ-5	Meadow Creek site 1	S	M	08/21/06	11/19/07	0.00	0.00	9,994.00
MJ-6	Meadow Creek site 2	S	M	08/21/06	11/19/07	0.00	0.00	1,341,562.00
MJ-7	Meadow Creek site 3	S	M	08/21/06	11/19/07	0.00	0.00	1,215,737.00
MJ-8	Meadow Creek site 4	S	M	08/21/06	11/19/07	0.00	0.00	625,622.00
SH-3 / UJ-3	Laurel Fork (Rifle Ridge Farm, LLC)	S	M	07/09/07	11/19/07	0.00	0.00	1,034,749.00
					Totals	**1,130,380.50**	**6,250.00**	**6,546,052.99**
					Grand Total	**7,682,683.49**		

Major River Basins

CB - Chesapeake Bay River Basin; LJ - Lower James River Basin; MJ - Middle James River Basin; UJ - Upper James River Basin; River Basin; PO - Potomac River Basin; RP - Rappahannock River Basin; RO - Roanoke River Basin; SH - Shenandoah River Basin; TN - Tennessee River Basin; YK - York River Basin

Resource Types

TW - Tidal Wetland; NTW - Non-tidal Wetland; S - Stream

Purpose of Proposal

M - Mitigation (may include A, AC, C, BS); A - Real Estate Appraisal; AC - Acquisition; C - Conceptual Plan Development; F - Feasibility Study; BS - Boundary Survey

The projects proposed in 2007 still pending a funding decision by the Corps include an extensive wetland restoration project in the Rappahannock River Basin and a wetland and stream preservation project in the Potomac River Basin.

The Conservancy also requested funds in 2007 to pursue a riparian buffer preservation project in the Rappahannock River Basin. This project involved preservation of seventy three acres along Piscataway Creek in Essex County. The Corps, in consultation with the DEQ and FWS, determined the actual resource benefited from this proposal was tidal wetland, not stream resources. Based on this determination and the absence of tidal impacts within the Rappahannock Basin, the Conservancy withdrew this proposal from consideration.

Mitigation Project Withdrawals

In 2007, the Conservancy withdrew one mitigation project previously approved by the Corps due to the inability to resolve negotiations with the landowners. This project was identified as UJ-2 in the 2006 Annual Report and involved riparian buffer and stream system preservation. No funds were spent, and the authorized funds were returned to the Fund's general balance.

IV. Mitigation Overview

The Fund is dedicated to providing the greatest compensatory mitigation value, while providing a specific emphasis on the protection of Virginia's rare plants, animals, and natural communities. As stated in the MOU, a primary goal of the Fund is to ensure a "no net loss" of acreage, functions, and values for compensatory mitigation completed for impacts to aquatic resources of the same type and within the same watershed as the impacts. The following sections detail the methodologies used by the Fund to help achieve these program goals.

Mitigation Value for Projects

The goal of "no net loss" of wetland acreage and function is defined in federal and state regulations. Activities which can be credited as wetland mitigation include wetland creation, restoration, enhancement, and preservation. In addition, the restoration, enhancement, or preservation of upland areas is also credited as wetland mitigation.

To determine and track the progress of the Fund toward the no net loss goal, information about impacts and mitigation is required. The Fund uses wetland impact area (acres) to determine the minimum requirement of wetland replacement necessary for each basin. Wetland replacement is achieved through wetland restoration or creation such that wetland acreage is gained to offset losses and this is consistent with state and federal laws. To address functional losses ratios are applied to wetland impacts. The following ratios are applied to acres of wetland impacts using the Fund in order to calculate the mitigation liability for each basin: PFO – 2:1, PSS – 1.5:1, PEM – 1:1, POW – 1:1, E1/2EM – 1: 1. It is generally accepted that higher ratios for wetland types that take longer to establish (e.g. forested wetlands) are necessary. To meet or exceed the mitigation liability in a basin, the Fund may pursue other activities in addition to restoration and creation.

In 2006, the Corps, FWS, and DEQ agreed that the standard ratios included in the table below may typically be used for crediting the Fund's wetland mitigation projects. These standard ratios were used to update the information provided for each wetland mitigation project in Section V of this report. For certain projects under specific conditions, different ratios may be appropriate. In these cases, the proposed ratio is coordinated for acceptance by the regulatory agencies.

Table 30: Standard Wetland Compensation Ratios used for the Fund

Proposed mitigation activity	Ratio
Wetland Restoration	1 : 1
Wetland Creation	1 : 1
Wetland Enhancement - Ratio ranges from 3:1 to 5:1 depending upon amount of enhancement.	3 : 1 to 5 : 1
Wetland Preservation	10 : 1
Upland Buffer Restoration	15 : 1
Upland Preservation - Ratio may be higher depending upon condition, location, or other factors.	20 : 1

Until implementation of the Unified Stream Methodology (USM), standard compensatory mitigation ratios had not been defined for stream impacts and mitigation in Virginia. Examples of accepted activities which can be considered stream mitigation include restoration (activities to

restore proper dimension, pattern, and profile), enhancement (e.g., creation of bankfull benches, bank shaping/sloping, installation of in-stream structures, planting of live-stakes), riparian buffer planting (for this report, the area within the first 200 feet from the top of the bank), livestock exclusion, and channel and upland riparian buffer preservation.

Due to the lack of a standard crediting method prior to mid-2007, the programmatic goal was to complete a combination of stream restoration, enhancement, and preservation projects with significant ecological benefit. Unlike with the wetland projects, "crediting" of stream projects is not completed for the Fund until projects are funded by impacts paid through the USM. Therefore, for this and previous annual reports, the mitigation activities for each stream project are described with the associated linear footage and protected riparian buffer widths.

For both wetland and stream projects, only those areas protected in accordance with the MOU are considered for mitigation. These are typically confined to ecologically important aquatic resources and buffers on the site in which activities incompatible with mitigation have been prohibited. The Conservancy refers to this "no-touch" protected area as the mitigation area.

In addition to the typical activities (noted above) which are considered mitigation for wetland and stream impacts, the Fund has pursued unique projects aimed at improving water quality and/or providing additional ecological benefits. These distinctive projects include the re-establishment of oyster reefs and submerged aquatic vegetation beds and the removal of earthen dams and the installation of a fish passage structure to allow the migration of anadromous fishes. While these projects may not be considered typical mitigation for wetland and stream impacts, their role in the improvement to water quality and benefit to fish and wildlife has proven appropriate for funding through the Fund. These projects are credited at a higher ratio, which reduces the amount of mitigation credit when compared to typical restoration projects.

Mitigation Project Site Selection

The following factors are considered during the identification and review of a project proposed for funding through the Fund.

- Appropriateness of the site to provide mitigation for permitted impacts
- Mitigation need for a project based on major river basin
- Likelihood of long-term success of the project
- Proximity of the site to identified areas of concern, environmentally sensitive sites, or other protected sites
- Project cost versus the mitigation value of the project

A proposed project must comply with the program goal to improve and protect water quality and provide appropriate and practicable mitigation for permitted impacts. As detailed in Section II, permitted impacts, the associated mitigation payments, and mitigation projects are tracked and reported by major river basin on an annual basis. This tracking process is in accordance with the Virginia Water Protection Permit Regulation (9VAC 25-210-115 E), which defines the criteria for DEQ's in-lieu fee fund approval. As previously stated, the primary goal of the Fund is to meet mitigation needs based on a major river basin basis. Although not required, a secondary goal of the Fund is to mitigate for permitted impacts through projects in the same or adjacent HUC. However, this goal is often cost prohibitive for the Fund based on limited impacts and associated mitigation payments in a certain area.

In addition to providing the appropriate mitigation, the program also considers the long-term success and ecological benefits for each project. The Conservancy is a leading international,

non–profit organization with the mission of preserving the plants animals, and natural communities that represent the diversity of life on Earth. To achieve this mission, the Conservancy has developed a strategic, science-based planning process, called Conservation by Design, which helps the organization identify the highest-priority areas that, if protected, will secure biodiversity over the long term. The Conservancy uses this tool to help identify ideal areas to search for a potential mitigation site within each major river basin.

Conservation by Design entails a four-step, disciplined process that enables the Conservancy to develop the appropriate mix of actions to abate threats in a given place and to secure tangible, lasting conservation results. A detailed description of Conservancy by Design can be found at the Conservancy's website (www.nature.org).

As the first step to Conservation by Design, the Conservancy sets it conservation priorities for a specific, scientifically-selected geographic location, called an ecoregion. These ecoregions represent the full distribution and diversity of native species, natural communities, and ecosystems. In order to make the most effective progress toward the conservation goals, the Conservancy establishes priority conservation areas within these ecoregions.

These priority areas are those places that are most in need of conservation action or promise the greatest conservation return on the investment provide the best opportunity for investment in conservation efforts. Designing ecoregional based priority areas is accomplished through a careful review of the ecoregions' ecological significance, its concentration of different species, the overall quality of the natural communities, and threats to the health of the area. This collected data allows the Conservancy to identify and prioritize which sites in the ecoregion are most suitable for protection.

The Conservancy uses Conservation by Design to focus on specific areas within each major river basin to identify a needed stream or wetland mitigation site. In addition to the long-term protection of a specific plant or animal species or natural community, this approach also develops protection corridors within a landscape of priority conservation areas.

The primary reason for locating the Fund's mitigation projects within this conservation framework is to increase the potential ecological benefits of the mitigation site beyond its own "footprint". An example of the success of using Conservation by Design as a tool in this program is demonstrated in the Chowan River Basin, where the Fund has contributed to the protection and restoration of land within the Back Bay, North Landing River, and Northwest River conservation corridors. These corridors have been recognized by federal, state, local, and environmental organizations as high conservation priorities. The Fund has protected over 1,700 acres of land within these corridors and is actively restoring / enhancing over 200 acres of wetlands. These mitigation projects compliment the tens of thousands of acres that federal, state, local and conservation organizations have protected using other funds. A map of these conservation corridors is included in Attachment B.

Projects located outside of a Conservancy identified priority areas are considered and often proposed in partnership with natural resource partners based on the mitigation needs for the basin, mitigation opportunities at the specific site, and ecological benefits provided by the project and the high likelihood of long-term success.

Mitigation Monitoring and Project Success

Monitoring of an approved project is critical to determine the overall success of the project in terms of mitigation. In the past, a mitigation plan was typically prepared and submitted to the

Corps for approval. Prior to 2004, monitoring and success criteria were not assigned to several projects, particularly projects involving stream mitigation or the non-typical mitigation projects. However, prior to that time, monitoring and success for stream mitigation were not defined or standardized in Virginia.

Over the past three years, the Fund staff and the Corps have worked to standardize the mitigation plans, including the requirements for monitoring and the success criteria of the proposed projects. The Conservancy prepares a mitigation plan with requirements for monitoring and success for Corps approval for all recently proposed and approved projects.

As stated in the MOU, the Fund is committed to ensuring that the completed projects are successful, and will repair or perform corrective action on projects that are determined to be unsuccessful. To help ensure this commitment, as required by the MOU, all projects proposed since 2003 have 20% of the restoration costs authorized to complete corrective actions if necessary.

Long-Term Protection and Stewardship

In accordance with federal and state requirements, each mitigation project must have a provision for long-term protection of the mitigation area. This provision is most often a conservation easement, deed restriction, dedication as a natural area preserve, or ownership by the Conservancy. Alternative protection methods may be implemented through approval by the Corps. These instruments protect the ecologically important aquatic resources and buffers on the mitigation site through the prohibition of certain activities such as, but not limited to, silviculture, agriculture, and development within the mitigation area. The Conservancy refers to this "no-touch" protected area as the mitigation area.

Protective instruments are often placed on entire tracts of land, and not just over the identified mitigation area. Although certain activities are restricted by the easement, other activities may be allowed within this area which renders the acres ineligible to serve as mitigation for permitted impacts. The Conservancy tracks this additional acreage protected by the easement but located outside of the mitigation area as "additional protected acreage". The mitigation area acreage and additional protected acreage for each project are detailed in the Project Summaries and tables included in Section V.

Once the mitigation project has been finalized and the land protected, there is a need for a management plan to care for the area for the long term. As part of a project's proposal, the Conservancy often requests funds for the continual management and stewardship of the site. These funds are held in a stewardship endowment and used to fund ongoing monitoring of the conservation easement or deed restrictions. Project easements are sometimes held by one of the Conservancy's partners, who are then responsible for the stewardship, and the associated monitoring and reporting, of the site. For these projects, funds may be requested for the stewardship activities conducted by the partner.

Under certain circumstances, the Conservancy initially purchases the property and then transfers the parcel or sections of the parcel to another entity, such as a government organization, a local land trust, or a conservation buyer. All properties are transferred with legally binding restrictions, as described above, which limit certain land practices and uses, with the ultimate protection of the mitigation area. Each entity must be committed to protecting the property's important natural values and willing to ensure the lands' long-term conservation and protection. The proceeds of these land sales are returned to the program and used to accomplish additional mitigation projects.

The Corps reviews the proposed protective instrument for each project and has the final authorization on the appropriateness of the proposed form of protection, as well as, the content of each protective instrument.

Details regarding the long-term protection and stewardship for each mitigation project are included under the Project Summaries in Section V.

Partners

Partnerships are often instrumental for ensuring the success of each mitigation project and advancing the goals of the program. The Conservancy has partnered with various federal, state, local government groups, and private and non-profit organizations to offer a variety of mitigation opportunities, site locations, and aquatic resource benefits.

The Conservancy has worked collaboratively with numerous partners in many different capacities including the identification of potential sites or projects, land acquisition and ownership, long-term protection and stewardship, and project implementation. This collaboration has allowed the program to utilize the expertise, innovation, and local knowledge of the partners to promote land acquisition and protection, as well as providing creative solutions to complex mitigation issues and concerns.

Several of the mitigation projects are part of a larger land protection or restoration opportunity sponsored by numerous partners. It is important to note that the Fund claims only the mitigation opportunities on the acreage directly funded through the program, and not the additional acreage acquired or accomplished by the partners.

The landowner is one of the most important partners to ensure the success of a mitigation project. Landowners for current projects include federal, state, and local governments, non-profit organizations, and private citizens. These landowners are dedicated to the conservation of the resources and are often interested in showcasing the mitigation activities to other landowners, while setting a precedent within the conservation area.

The following is a sample of the groups with which the Conservancy has partnered to achieve the mitigation projects included in this report. The diversity and expertise of these partners is a critical component to the success of the individual mitigation projects, as well as the success of the program.

- Bedford County
- Canaan Valley Institute
- Cave Conservancy of the Virginias
- Central Virginia Battlefields Trust
- Chesapeake Bay Foundation
- Christopher Newport University
- City of Bedford
- City of Charlottesville
- City of Fredericksburg
- City of Harrisonburg
- Culpeper County
- Northern Virginia Conservation Trust
- Northern Virginia Soil and Water Conservation District
- Old Dominion University
- Orange County
- Rappahannock Phragmites Action Committee
- Rivanna Sewer and Water Authority
- Spotsylvania County
- Stafford County
- United States Army Corps of Engineers
- United States Environmental Protection Agency
- United States Fish and Wildlife Service

Ducks Unlimited	Valley Conservation Council
Fairfax County	Various Consulting and Engineering Firms
Fauquier County	Various Individual Landowners
Friends of the Rappahannock	Virginia Commonwealth University
Goose Creek Association	Virginia Department of Conservation and Recreation
Henrico County	Virginia Department of Environmental Quality
James City County	Virginia Department of Forestry
James River Association	Virginia Department of Game and Inland Fisheries
Loudoun County	Virginia Institute of Marine Science
Middle Peninsula Land Trust	Virginia Marine Resources Commission
Middle Peninsula Public Access Authority	Virginia Outdoors Foundation
National Park Service	Virginia Polytechnic Institute and State University
Natural Resources Conservation Services	Western Virginia Land Trust

Details regarding partnering opportunities for each mitigation project are included under the Project Summaries in Section V.

Additional Program Benefits

In addition to the direct mitigation of surface water impacts, the Fund provides significant supplementary benefits to Virginia's resources. Many of these additional benefits are made possible through the site identification process and partnering opportunities outlined above.

Through Conservation by Design, mitigation sites are often located within a conservation framework that provide greater ecological benefit than would an isolated project with the same mitigation activities. The projects are often part of an on-going conservation initiation with comprehensive ecological management plans. The large size of many of the projects (including both the mitigation areas and additional protected acreage) provide significant habitat for wildlife that depend upon large, contiguous forest blocks while providing additional buffering protection for aquatic resources. These projects also provide corridors to connect preserved properties or surround and buffer a critical area. Many of the project sites are listed habitat sites for state and/or federal threatened or endangered species and have documented occurrences of the Virginia Department of Conservation and Recreation Natural Heritage Elements. In addition, many of the projects provide direct and indirect improvements to impaired systems, such as TMDL listed streams, or added protection to large or significant resource systems, including the Clinch River, Great Dismal Swamp, and the Chesapeake Bay watershed. Several sites also have significant historic or cultural resource preservation benefits or protect unique natural features.

In addition to the compensatory mitigation provided by the approved wetland and stream projects, many of the projects greatly contribute to the protection of Virginia's rare plants, animals, and natural communities. The following is a compiled listing of the rare species, natural communities, and unique natural features that could potentially benefit from the approved mitigation projects of the Fund, through water quality improvement, habitat protection, feeding and nursery habitat protection, and direct enhancement or restoration of the resource. This list was developed utilizing existing conservation planning information, as well as, other data.

Table 31: Conservation Targets

Common Name / Community	*Scientific Name*	Federal/State Rankings
sensitive joint vetch	*Aeschynomone virginica*	G2/S2
dwarf wedgemussel	*Alasmidonta heterodon*	G1G2/S1
pearly everlasting	*Anaphalis margaritacea*	G5/S1
Elliott's aster	*Aster puniceus elliottii*	G5T3T4/S1
tropical water-hyssop	*Bacopa innominata*	G3G5/S2
aster-like boltonia	*Boltonia asteroides*	G5/S3
Carolina boltonia	*Boltonia caroliniana*	G4/S2
Carolina fanwort	*Cabomba caroliniana*	G3G5/S1
Price's cave isopod	*Caecidotea pricei*	G3G4/S2S3
hoary elfin	*Callophrys polios*	S1S3
epiphytic sedge	*Carex decomposita*	G3/S2
a sedge	*Carex striata*	G4/S2
Atlantic white cedar	*Chamaecyparis thyoides*	G4/S2
northeastern beach tiger beetle	*Cicindela dorsalis ssp. dorsalis*	Threatened
sawgrass	*Cladium mariscus var. jamaicense*	G5T5/S1
spreading pogonia	*Cleistes divaricata*	G4/S1
bunchberry	*Cornus Canadensis*	G5/S1
Potomac sculpin	*Cottus bairdi*	Potomac and James restricted
canebrake rattlesnake (coastal plain population)	*Crotalus horridus*	G4TUQ/S1
button-bush dodder	*Cuscuta cephalanthi*	G5/S1
pretty dodder	*Cuscuta indecora*	G5/S2
showy lady's slipper	*Cypripedium reginae*	G4/S1
showy tick-trefoil	*Desmodium canadennse*	G5/S1S2
beaked spikerush	*Eleocharis rostellata*	G5/S3
yellow lance	*Elliptio lanceolata*	G2G3/S2S3
big bluet	*Enallagma durum*	G5/S3
Parker's pipewort	*Eriocaulon parkeri*	G3/S2
longfin darter	*Etheostoma longimanum*	James River endemic
scarce swamp skipper	*Euphyes dukesi*	G3/S2
shiny pigtoe	*Fusconaia cor*	G1/S1
American peregrine falcon	*Falco peregrinus anatum*	State threatened, DM
Appalachian springsnail	*Fontigens bottimeri*	G2/S1S2/SE
fine-rayed pigtoe	*Fusconaia cuneolus*	G1/S1
Atlantic pigtoe	*Fusconaia masoni*	G2/S2
American bald eagle	*Haliaeetus leucocephalus*	G5/S2S3
small whorled pogonia	*Isotria medeoloides*	G2/S2
least bittern	*Ixobrychus exilis*	G5/S2
jointed rush	*Juncus articulatus*	G5/S2
narrow-panicled rush	*Juncus* brevicaudatus	G5/S2
big-head rush	*Juncus megacephalus*	G4G5/S2
ground juniper	*Juniperus communis* var. *depressa*	G5/T5S1
sheep-laurel	*Kalmia angustifolia*	G5/S3
eastern lampmussel	*Lampsilis radiata*	G5/S2S3
green floater	*Lasmigona subviridis*	G3,/S2
birdwing pearly mussel	*Lemiox rimosus*	G1/S1

Common Name / Community	***Scientific Name***	**Federal/State Rankings**
Kemp's Ridley sea turtle	*Lepidochelys kempii*	Endangered
Virginia pigtoe	*Lexingtonia subplana*	G1/S1
Carolina lilaepsis	*Lilaeopsis carolinensis*	G3/S1S2
elongated lobelia	*Lobelia elongata*	G4G5/S1
winged seedbox	*Ludwigia alata*	G3G4/S1
roughhead shiner	*Notropis semperasper*	James River endemic
eastern glass lizard	*Ophisaurus ventralis*	G5/S1
large-leaved grass of parnassus	*Parnassia grandifolia*	G3G4/S2
joint paspalum	*Paspalum distichum*	G5/S1
stripeback darter	*Percina notogramma*	James River endemic
slender-leaved dragon-head	*Physostegia leptophylla*	G4G5/S2
Peaks of Otter salamander	*Plethodon hubrichti*	G2/S2
James River spiny mussel	*Pleurobema collina*	G1
rare skipper	*Problema bulenta*	G2G3/S1 SOC
thin-necked cave beetle	*Pseudanophthalmus parvicollis*	G1S1
rough rabbits foot	*Quadrula cylindrica*	G3T2/S2
Appalachian monkeyface	*Quadrula sparsa*	G1/S1
alderleaf buckthorn	*Rhamnus alnifolia*	G5/S1
capillary beakrush	*Rhynchospora capillacea*	G5/S1S2
hard-stemmed bulrush	*Scirpus acutus*	G5/S1
purple oat-grass	*Schizachne purpurascens*	G5S1
roundleaf clover	*Solidago patula*	G5/S1
Dismal Swamp southeastern shrew	*Sorex longirostris fisheri*	G5T2/S2
sweetscent ladies'-tresses	*Spiranthes odorata*	G5/S3
silky camellia	*Stewarthia malachodendron*	G4/S2
Bigger's Cave amphipod	*Stygobromus biggersi*	G2G4/S1S2
Shenandoah Valley cave amphipod	*Stygobromus gracilipes*	G3G4/S2S3
Spanish moss	*Tillandsia usneoides*	G5/S1
Fraser's marsh St. John's-wort	*Triadenum fraseri*	G5/S1
least trillium	*Trillium pusillum var. virginianum*	G3T3/S2
American black bears	*Ursus americanus*	Threatened
large cranberry	*Vaccinium macrocarpon*	G4/S2
non-riverine saturated forest community		
Appalachian terrestrial dung community		
Appalachian cave drip pool/epikarstic community		
Appalachian cave stream community		
Appalachian cave stream riparian community		
oligotrophic saturated scrub community		
Atlantic white cedar swamp community		
brackish marsh community		
pocosin community spruce/fir forest high elevation cove forest		

As one of the largest, international conservation organizations, the Conservancy is recognized for its expertise in land protection. Because of this, many land owners are often willing to either donate an easement on their entire property or purchase the land or easement below fair market value. The savings in acquisition and protection costs allow the Fund to use those otherwise

required costs to fund additional mitigation projects.

Although the program does not fund academic research, many of the project sites are available for scientific studies provided there is no interference with the mitigation efforts. For example, the following two academic institutions have conducted the following scientific research on several sites. The Virginia Polytechnic Institute and State University conducted research on the effects of vegetation cover types on soil temperature in regards to growing season at a southeast Virginia site. Old Dominion University conducted a small mammal study at three project sites in the Chowan River Basin. Christopher Newport University utilized monitoring data to generate papers and presentations on numerous restoration related subjects, including the effect of volunteer colonization by woody species on growth and survival of planted species, the role of site selection and goal setting in restoration of prior converted wetlands, the creation of a GIS-based predictive model for colonization of woody species in restored and created wetlands, and a comparison of prevalence index and 50/20 Rule for colonizing vegetation monitoring, including the effect of graminoid species on monitoring outcomes.

Project sites have also been used as training opportunities for various federal and state government programs. In addition, the Conservancy has organized field trips for interested federal, state, and local government representatives, private landowners and home owner organizations, watershed protection groups, school groups, youth service programs, and non-profit organizations. These trips have provided significant educational opportunities for both conservation and stream and wetland mitigation activities. For example, the Conservancy has lead field trips to the Rivanna River (Lamb) (MJ-1) project as part of the 2005 Virginia Stream Alliance Workshop, as well as individual site visits with local government representatives, local landowners, youth service organizations, and school groups.

The Conservancy has also enlisted the help of numerous volunteers to assist the program funded staff in accomplishing activities both in the field and in the office. The volunteers have assisted program staff by reviewing and updating various program tracking records, conducting invasive species control activities, planting riparian buffers, assisting with preserve cleanup, and providing visual monitoring of the sites.

V. Mitigation Projects

This section provides general information regarding the mitigation projects proposed by the Conservancy and approved or denied by the Corps. Detailed project summaries of the approved projects are included in the end of this section.

Approved Mitigation Projects

From 1995 through 2007, the Corps has authorized $24,693,132.81 for the Conservancy (with our partners) to pursue a total of 81 mitigation projects. These projects attempt to achieve the overall programmatic goal of water quality improvement through the creation, restoration, and enhancement of non-tidal and tidal wetlands and through the restoration and enhancement of stream channels. Water quality is further enhanced by the Fund through the restoration or enhancement of the surrounding upland buffers. The Fund has also achieved the preservation of highly functional wetlands, streams, and buffer areas which both improve and protect water quality in the long-term. In addition to funding the direct costs of wetland and stream restoration, enhancement, creation, or preservation, money was also requested and authorized to fund a variety of associated or preliminary activities including land acquisition, property appraisals, boundary surveys, stewardship activities, feasibility studies, and conceptual plan development.

A summary table listing all of the projects for which funds have been authorized through 2007 is included in Attachment C. The table includes the project name and corresponding identification number (based on major river basin), project location information (HUC), aquatic resource type for which the project provides mitigation (non-tidal wetlands, tidal wetlands, streams), proposal information (purpose of the request for funding, date proposed by the Conservancy, date the funds were authorized by the Corps), and the amount of funds authorized by the Corps based on resource type. The projects are organized by major river basin, and within each basin, listed chronologically based on the Corps funding approval date. Several project names are withheld as a privacy consideration for landowners whose protection instrument has not been finalized at this time. These projects are identified throughout the report according to the project identification number and the general location or watershed of the project.

Due to drainage divides or hydrological modifications at the site, three projects (CB-5/CH-12, CB-8/YK-4, and CH-9/LJ-4) mitigate for impacts within multiple basins. Although these projects are listed in the table in Attachment C under both basins, the total funds authorized by the Corps for these projects have been appropriately divided between the two respective basins.

The following table illustrates the number of mitigation projects approved by the Corps each year since the initiation of the Fund. Only the initial project approval is included in the table. Subsequent approvals for the same project are not recorded in the subsequent year.

Table 32: Annual Number of Approved Projects

	Number of Approved Projects	
Year	**Number**	**Cumulative Total**
1995	1	**1**
1996	0	**1**
1997	4	**5**
1998	2	**7**
1999	1	**8**
2000	3	**11**
2001	5	**16**
2002	5	**21**
2003	5	**26**
2004	5	**31**
2005	12	**43**
2006	22	**65**
2007	16	**81**

As stated in the original MOU, the Conservancy initially proposed projects located primarily along the North Landing River and Northwest Rivers within the Chowan River Basin. As the geographic range and amount of mitigation payments received by the Fund increased, the need for compensation projects in additional areas became necessary. In recent years, the Conservancy has proposed a diversity of projects across the state in all major river basins with the exception of the New River Basin and the Big Sandy River Basin. Until recently, the Fund was not used as a mitigation option for impacts within these basins; and therefore, the Conservancy did not focus on identifying mitigation projects in these areas. Many of the proposed projects across the state include both wetland and stream components and a suite of creation, restoration, enhancement, and preservation activities. A map depicting the location of these sites across the state is included in Attachment A.

Of the 81 approved projects, 54 projects include mitigation activities to address non-tidal wetland impacts; 10 projects include mitigation activities to address tidal wetland impacts; and 38 projects include mitigation activities to address stream impacts. Twenty-one of the approved projects include mitigation activities to address impacts to multiple aquatic resource types. Of the 81 approved mitigation projects, the Conservancy is actively pursuing 73 projects. The Conservancy is no longer pursuing the remaining projects due to irresolvable landowner constraints and based on the recommendations of feasibility studies.

The following table provides an annual summary and cumulative total of funds authorized by the Corps based on aquatic resource type through 2007. As noted in the table and detailed in Section III, the Fund has shown considerable progress in the approval of mitigation projects in 2007.

Table 33: Annual Authorized Funds Per Resource Type

Year	Funds Authorized				
	Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)	Total ($)	Cumulative Total ($)
1995	37,020.00	0.00	0.00	37,020.00	**37,020.00**
1996	0.00	0.00	0.00	0.00	**37,020.00**
1997	167,076.59	10,000.00	7,000.00	184,076.59	**221,096.59**
1998	340,014.88	0.00	0.00	340,014.88	**561,111.47**
1999	143,203.88	0.00	0.00	143,203.88	**704,315.35**
2000	521,315.37	1,736.00	0.00	523,051.37	**1,227,366.72**
2001	936,680.10	10,000.00	15,000.00	961,680.10	**2,189,046.82**
2002	1,250,000.00	90,650.00	101,594.00	1,442,244.00	**3,631,290.82**
2003	510,841.00	40,000.00	1,545,800.00	2,096,641.00	**5,727,931.82**
2004	1,366,250.00	25,332.50	137,600.00	1,529,182.50	**7,257,114.32**
2005	206,888.00	206,350.00	474,013.00	887,251.00	**8,144,365.32**
2006	2,522,833.00	9,000.00	6,334,251.00	8,866,084.00	**17,010,449.32**
2007	1,130,380.50	6,250.00	6,546,052.99	7,682,683.49	**24,693,132.81**
Grand Totals	**9,132,503.32**	**399,318.50**	**15,161,310.99**	**24,693,132.81**	

Table 34 summarizes the funds authorized by the Corps according to resource type and major river basin. All major river basins in Virginia have had funds authorized towards mitigation projects, except for the Big Sandy and New River Basin. As detailed in Section III, until recently, the Fund has not been used as a mitigation option in these basins. Those basins with the highest approved authorizations are in excess of three million dollars each: the Lower James River, Middle James River, Potomac River, and Shenandoah River Basins. Several basins, the Chesapeake Bay, Chowan, Rappahannock River, and York River Basins, have over one million authorized towards mitigation projects.

Table 34: Authorized Funds Per Resource Type and Basin.

Basin	Funds Authorized

	Non-Tidal Wetland Projects ($)	Tidal Wetland Projects ($)	Stream Projects ($)	Total ($)
Atlantic Ocean	0.00	206,350.00	0.00	206,350.00
Chesapeake Bay	852,291.59	78,652.25	134,038.00	1,064,981.84
Chowan	2,576,945.23	52,666.25	0.00	2,629,611.48
Lower James	2,828,916.00	50,650.00	356,082.00	3,235,648.00
Middle James	493,200.00	0.00	4,055,323.00	4,548,523.00
Upper James	127,999.00	0.00	149,009.00	277,008.00
Potomac	435,819.50	0.00	4,350,254.50	4,786,074.00
Rappahannock	337,632.00	10,000.00	2,119,013.49	2,466,645.49
Roanoke	10,075.00	0.00	213,325.00	223,400.00
Shenandoah	0.00	0.00	3,107,284.00	3,107,284.00
Tennessee	42,000.00	0.00	315,000.00	357,000.00
York	1,427,625.00	1,000.00	361,982.00	1,790,607.00
Totals	**9,132,503.32**	**399,318.50**	**15,161,310.99**	**24,693,132.81**

Expenditures from the Fund follow the progress of each mitigation project. Some of these projects are completed quickly, as in the scenario of preservation projects. However, many of these projects involve restoration and monitoring and occur over a number of years. The majority of restoration projects funded are proposed to have monitoring for up to ten years following completion of restoration activities and the planning period may take several years. The following table provides information about the payments from the Fund to complete the mitigation activities approved by the Corps on an annual basis.

Table 35: Summary of Yearly Expenditures

Year	Expenditures
1995	16.00
1996	37,442.06
1997	173,692.46
1998	320,595.75
1999	40,180.31
2000	824,016.05
2001	681,946.80
2002	1,184,821.04
2003	551,378.92
2004	1,239,880.66
2005	1,110,749.47
2006	2,615,708.97
2007	5,991,699.45
Total	**$14,772,127.94**

These approved projects are in various stages of completion. For example, as detailed in Section III, a significant number of projects were approved during 2006 and 2007. Many of these projects are pending the closure of land deals or easements, require delineations or surface water

assessments, or are in the initial planning stages for restoration or enhancement activities. In addition to the recently approved projects, many of the older projects are pending official closure by the Conservancy with approval by the Corps. Therefore, acreages, linear footages and funding values included in this report are often estimates and may require clarification in future reports. Once a project is officially closed, the Conservancy will report the final mitigation provided by that project and the total funds authorized for that project in the subsequent annual report.

Table 36. Status of Approved Projects.

Project status	Non-tidal Wetland	Tidal Wetland	Stream	Multiple Resource	Total Number
Active project development	2		3	6	**11**
Acquired/Protected	10		5	7	**22**
Construction Planned 2008	4		6	2	**12**
Constructed/Monitoring	11	2	2	3	**18**
Closed/Mitigation	3	3	4		**10**
Closed without mitigation	3		2	2	**7**
Inactive, pending closure				1	**1**
Total	**33**	**5**	**22**	**21**	**81**

Active project development – currently in negotiations with landowner and/or developing restoration plans.
Acquired/Protected – preservation only projects with land protection deal completed; delineation required to close.
Construction 2008 – restoration plans complete or underway for 2008 implementation of mitigation activities.
Constructed/Monitoring – restoration activities are complete, project in monitoring phase (up to 10 years)
Closed/Mitigation – project has been officially closed and mitigation credit assigned.
Closed w/o Mitigation – project has been officially closed and did not provide any mitigation credit (appraisal, feasibility, project withdrawn).
Inactive – project is no longer moving forward and will be closed w/o credit

Approved Project Details

Non-Tidal Wetland Summary

The following tables provide summary information of Fund activity relating to non-tidal wetlands. The first two tables provide the total impacts (acres), mitigation payments, authorized funds, the remaining balance of available funds, the mitigation liability (credits), mitigation activities being pursued (acres), and the associated proposed credits for non-tidal wetlands on a programmatic basis. The last table provides a summary of the non-tidal wetland impacts (acres) and associated credit liability as well as the proposed wetland mitigation credits, acres, and additional protected acres for each major river basin.

Table 37: Non-Tidal Wetland Impact and Financial Summary

Impacts (ac)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)	Mitigation Liability (Credits)
224.03	$18,794,976.14	$9,132,503.32	$9,662,472.82	403.20

Table 38: Non-Tidal Wetland Mitigation Activity Summary

Non-Tidal Wetland Mitigation Activities (Acres)					Sum of	Sum of
Wetland	Wetland	Wetlands	Upland	Upland	Mitigation	Mitigation

Restoration	Enhancement	Preservation	Restoration	Preservation	Acres	Credits
482.39	27.31	3,042.47	217.05	820.99	4,588.44	851.26

Table 39: Non-Tidal Mitigation Activity Summary Based on Major River Basin

Basin	Impacts (Acres)	Mitigation Liability (Credits)	Proposed Mitigation (Credits)	Credit Balance (Credits)	Proposed Mitigation (Acres)	Additional Protected Acreage
Atlantic Ocean	0.54	1.05	0.00	-1.05	0.00	0.00
Big Sandy	0.11	0.15	0.00	-0.15	0.00	0.00
Chesapeake Bay	43.46	82.13	98.06	15.93	850.81	109.64
Chowan River	33.44	59.92	378.30	318.38	1,765.02	0.00
Lower James River	70.32	132.69	199.59	66.9	1,068.18	514.00
Middle James River	20.06	37.00	25.96	-11.04	94.50	513.32
Upper James River	3.10	5.08	4.21	-0.87	13.99	0.00
New River	0.68	0.72	0.00	-0.72	0.00	0.00
Potomac River	7.09	10.98	25.58	14.6	159.26	0.00
Rappahannock River	9.91	18.98	9.95	-9.03	84.30	250.80
Roanoke River	3.98	6.94	0.00	-6.94	0.00	0.00
Shenandoah River	7.69	9.41	1.10	-8.31	11.00	0.00
Tennessee River	16.26	24.62	1.57	-23.05	6.12	0.00
York River	9.07	17.24	107.08	89.84	535.06	162.32
Total	**224.03**	**403.20**	**851.4**	**444.49**	**4588.44**	**1550.08**

Tidal Wetland Summary

The following tables provide summary information of Fund activity relating to tidal wetlands. The first two tables provide the total impacts, mitigation payments, authorized funds, the remaining balance of available funds, the mitigation liability (expressed as credits), mitigation activities being pursued (expressed as acres), and the associated proposed credits for tidal wetlands on a programmatic basis. The last table provides a summary of the non-tidal wetland impacts (acres) and associated credit liability as well as the proposed wetland mitigation credits, acres, and additional protected acres for each major river basin.

Table 40: Tidal Wetland Impact and Financial Summary

Impacts (ac)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)	Mitigation Liability (Credits)
2.03	$366,201.00	$399,318.50	-$33,116.66	2.03

Table 41: Tidal Wetland Mitigation Activity Summary

Tidal Wetland Mitigation Activities (Acres)					Sum of Mitigation Acres	Sum of Mitigation Credits
Wetland Restoration	SAV Restoration	Oyster Restoration	Tidal Enhancement	Tidal Preservation		
3.4	10.00	3.52	220.00	115.32	352.24	22.04

Table 42: Tidal Mitigation Activity Summary Based on Major River Basin

Basin	Impacts (Acres)	Mitigation Liability (Credits)	Proposed Mitigation (Credits)	Credit Balance (Credits)	Proposed Mitigation (Acres)
Atlantic Ocean	1.01	1.01	2.64	1.63	13.18
Chesapeake Bay	0.47	0.47	12.93	12.46	185.32
Chowan River	0.01	0.01	1.40	1.39	70.00
Lower James River	0.43	0.43	0.07	-0.36	0.34
Potomac River	0.11	0.11	0.00	-.11	0.00
Rappahannock River	0.00	0.00	1.60	1.60	80.00
York River	0.00	0.00	3.40	3.40	3.40
Total	**2.03**	**2.03**	**22.04**	**20.01**	**352.24**

Stream Summary

The following tables provide summary information of the Fund activities for streams. The first table provides a summary of the total linear feet of impacts and associated financial information for streams program wide. The second table summarizes the total linear footage of each mitigation activity the Fund is pursuing through the approved 38 projects program wide. For a broad overview of the Fund activity, stream mitigation activities are divided into the following four general categories: channel restoration / enhancement (projects may include riparian buffer planting); riparian buffer planting (projects do not have any channel or bank work); livestock exclusion; and stream and/or riparian buffer preservation. The third table summarizes the total impact length, linear footage of each mitigation activity, total channel length in the mitigation area, stream mitigation acreage, and the additional protected acreage for the approved stream projects for each major river basin.

As noted in both Tables 43 and 44, for several projects, multiple mitigation activities are completed along the same channel length. For example, riparian buffer planting and livestock exclusion activities are conducted along the same 2,000 linear foot length of stream channel for the Linden Farm project (RP-2). Table 45 identifies these areas of multiple mitigation activities. Detailed descriptions of the mitigation activities (with associated buffer widths, as appropriate) for each project are included in the project summaries in Attachment D.

Table 43: Stream Impact and Financial Summary.

Impacts (linear feet)	Mitigation Payments ($)	Authorized Funds ($)	Remaining Balance ($)
170,981	28,671,731.57	15,161,310.00	13,510,421.57

Table 44: Stream Mitigation Activity Summary.

Stream Mitigation Activity (linear feet)	Total Channel

Channel Restoration / Enhancement (may include buffer planting)	Riparian Buffer Planting (no channel or bank work)	Livestock Exclusion	Stream and/or Riparian Buffer Preservation	Length in Mitigation Area (linear feet)
41,654	9,700	23,799	429,681	**504,834**

For several projects, multiple mitigation activities are completed along the same channel length (e.g., Riparian Buffer Planting and Livestock Exclusion).

Table 45: Stream Mitigation Activity Summary Based on Major River Basin.

Basin	Impacts (lf)	Stream Mitigation Activity (lf)				Total Channel Length in Mitigation Area (lf)	Stream Mitigation Area (ac)	Additional Protected Acreage
		Channel Restoration / Enhancement (may include buffer planting)	Riparian Buffer Planting (no channel or bank work)	Livestock Exclusion	Stream and/or Riparian Buffer Preservation			
Atlantic Ocean	0	0	0	0	0	0	0.00	0.00
Big Sandy	3,006	0	0	0	0	0	0.00	0.00
Chesapeake Bay	1399	0	0	0	11,168	11,168	40.51	NTW
Chowan River	911	0	0	0	0	0	0.00	0.00
Lower James River	21,338	1,071	0	0	0	1,071	3.24	0.00
Middle James River	28,735	10,181	6,000	0	43,520	59,711	633.16	NTW
Upper James River	0	0	0	0	7,445	7,445	104.4	0.00
New River	3,078	0	0	0	0	0	0.00	0.00
Potomac River [1]	72,367	18,277	0	8,477	100	19,027	76.04	77.00
Rappahannock River [1,2]	14,936	0	2,000	7,742	304,297	312,039	1,281.38	2,978.62
Roanoke River	6,142	0	0	0	6,008	6,008	40.46	26.29
Shenandoah River	12,428	0	1,700	0	33,915	40,360	508.5	1,186.00
Tennessee River [1]	5,359	1,580	0	7,580	6,000	7,580	22.20	284.50
York River	1,282	5,800	0	0	17,228	23,028	219.12	132.72
Totals	**170,981**	**41,654**	**9,700**	**23,799**	**429,681**	**504,834**	**2,929.01**	**4,743.25**

Linear footages and acreages included in this table include estimates which may be changed in future reports, as the projects are in various phases of completion. Mitigation Area refers to linear footage and/or acreage included under a "no-touch" buffer.

lf - linear feet ac - acre

NTW - Additional Protected Acreage is reported under the non-tidal wetland summary
1 - For several projects, multiple mitigation activities are completed along the same channel length (e.g., Riparian Buffer Planting and Livestock Exclusion).

2 - The Rappahannock River Fish Passage project is not included in the table

Additional Protected Acreage refers to acreage included under the protective instrument placed on the property by the program which does not qualify for mitigation due to specified allowable activities (e.g., silviculture, agriculture)

Closed Projects

In 2007, the Conservancy and the Corps officially closed seventeen of the 81 approved projects. Most of these projects provided mitigation for non-tidal wetland, tidal wetland or stream resource impacts. However, six of these projects were feasibility or acquisition related projects that did not result in completed mitigation projects. One project (UJ-2) was withdrawn prior to initiation of mitigation activities and does not serve as mitigation.

The following table identifies the closed projects, funds allocated, funds returned upon closure,

and purpose of the project. The amount of credits assigned for each project is detailed in the individual project summary, where applicable, in the following sections.

Table 46. Closed Project Summary

Project ID	Amount Approved ($)	Balance Returned ($)	Purpose of Project
CB-5/CH-12	105,332.50	18,949.34	Mitigation
CB-9	6,800.00	0.00	Feasibility
CH-2	24,324.00	25.00	Mitigation
CH-4	8,800.00	39.77	Mitigation
LJ-2	15,000.00	0.00	Mitigation
LJ-3	50,650.00	0.00	Mitigation
LJ-5	3,500.00	1,000.00	Appraisal
MJ-2	1,500.00	0.00	Appraisal
PO-4	8,000.00	0.00	Appraisal
RP-1	10,000.00	0.00	Mitigation
RP-2	61,894.00	0.00	Mitigation
RP-3	39,700.00	0.00	Mitigation
RP-6	6,500.00	3,500.00	Appraisal
TN-1	7,000.00	0.00	Mitigation
TN-3	39,000.00	1,366.34	Mitigation
TN-4	6,000.00	0.00	Appraisal
UJ-2	149,009.00	149,009.00	Withdrawn
Total	**543,009.50**	**173,889.45**	

In conclusion, as intended, the mitigation payments for numerous, small impacts have been collectively pooled to provide large scale, ecologically preferable mitigation. As the available balance of the Fund grew, the ability of the program to pursue mitigation projects increased. With the addition of two program staff in 2005, increasing the total program staff to three, the number of approved projects has nearly tripled in the past three years. At the close of 2007, over half of the accumulated mitigation payments have been authorized to a diverse array of non-tidal wetland, tidal wetland, and stream mitigation projects across Virginia. These projects provide a suite of typical wetland and stream restoration, enhancement, and preservation opportunities, as well as, unique projects aimed at improving water quality and/or providing additional ecological benefits.

A detailed summary of each project for which funds have been authorized is included in the Appendix D. The mitigation projects are organized by major river basin.

VI. Future Priorities

The Conservancy has identified future priorities for the Fund, including both programmatic issues and activities associated with individual projects. Programmatic issues include operational activities such as the prioritization of project identification in areas with high mitigation needs. Because the individual project status and the associated required activity for each project is covered in Section V, this section only discusses the general areas of need for projects such as those pending closure or implementation.

A potential change in federal mitigation policy is a primary programmatic issue for the Fund. On March 28, 2006, the Corps and the Environmental Protection Agency (EPA) proposed the joint Rule "Compensatory Mitigation for Losses of Aquatic Resources" (Federal Register Vol. 71, No. 59). If adopted as proposed, this Rule would require that ILF programs be converted to Mitigation Banks or cease selling credits within five years of final issuance of the Rule. A final decision on the Rule by the Corps and EPA is still pending. If the Rule is accepted, either as proposed or amended, there is a high likelihood that the Fund operations will need to be modified to comply with the Rule.

Prioritization of efforts to identify and acquire mitigation projects in basins with the greatest compensatory mitigation need is a dynamic process that requires a high degree of coordination. As indicated in Section V, there are several basins in which there is mitigation need across all aquatic resource types.

While non-tidal wetland mitigation requirements are largely addressed by mitigation projects in certain key basins with the greatest impacts such as the Lower James River, Chowan River and York River, there are several basins in which mitigation projects are needed. The basins of highest priority include the Tennessee River, Rappahannock River, Roanoke River, and Shenandoah River. Of these basins the Tennessee has experienced the greatest mitigation credit obligation (24.62 credits); however, the other basins have accrued impacts over longer periods of time and are therefore, high priorities for project identification. As indicated in Section V, a feasibility study for one project in the Roanoke River Basin (RO-3) involving non-tidal wetland mitigation (as well as stream mitigation) has been funded, and the Conservancy is currently pursuing development of restoration activities at this site. In addition, the Conservancy proposed an extensive non-tidal wetland restoration project in the Rappahannock Basin in 2007 and expects approval to be granted by the Corps in early 2008.

Basins with intermediate levels of non-tidal wetland mitigation need include the Chesapeake Bay and Middle James River. Both the Chesapeake Bay and the Middle James River have approved non-tidal wetland mitigation projects, but additional projects that include wetland restoration or creation are needed.

The amount of tidal wetland impacts and associated mitigation payments is more limited than those for non-tidal wetlands, and historically the Conservancy has focused on the areas of greatest mitigation needs. Nevertheless, a number of projects with tidal mitigation components have been approved through the Fund, including three that involve innovative restoration efforts (submerged aquatic vegetation restoration and oyster reef restoration). However, tidal salt marsh restoration or creation is lacking across all basins in which mitigation payments have been received. Although the restoration efforts funded to date are not inferior they do result in mitigation that is "out-of-kind". Therefore, tidal salt marsh restoration and/or creation will remain a priority, especially for the Atlantic Ocean, Chesapeake Bay, and Lower James River basins which have

accumulated the greatest amount of tidal salt marsh impacts.

The majority of stream impacts utilizing the Fund for mitigation have occurred in the Potomac River Basin. Additional basins with high impacts include the Middle James River, Lower James River, Shenandoah River, and Rappahannock River Basins. These five basins account for 88% of the linear footage of impacts through 2007. Appropriately, the Conservancy has focused on these basins to identify and propose stream mitigation projects. Projects have been identified and approved in four of these five basins in 2007, and several additional projects are in development or have been proposed and are awaiting a decision from the Corps.

The Potomac River Basin remains a top priority for stream mitigation projects. However, the Conservancy has made significant strides in identifying and proposing projects in this basin, including a large restoration project approved in 2007 (PO-5). For this basin, the Conservancy is currently working with state and local governments to purchase a large-acreage tract with significant stream preservation opportunities. The Conservancy anticipates proposing this project in early 2008.

As reported in Section III, $7,682,683.49 was authorized towards the mitigation activities associated with 24 projects approved in 2007. The number of projects proposed and approved in 2006-2007 is significantly higher than any other previous year, with the associated amount of authorized funds more than four times the amount than in any other year. The approved projects include non-tidal wetland, tidal wetland, and stream mitigation projects involving a suite of activities including restoration, enhancement, and preservation at sites across the state. In 2007, twelve of the projects involve restoration and/or enhancement that include design, permitting, site construction, contract oversight and supervision activities that preservation projects typically do not. Due to the significant number of projects approved in 2007 (in addition to the projects approved prior to 2007), the Conservancy staff must dedicate significant effort over the next annual cycle toward moving these approved projects toward implementation.

As approved projects are implemented, mitigation monitoring and corrective action on sites become major priorities for the Fund to ensure the success of the sites. Mitigation monitoring and reporting requires a large investment in resources over a long timeframe. For instance, approximately fifty percent of the non-tidal wetland restoration (455.9 acres) and upland restoration (202.9 acres) require scheduled monitoring through 2011, with the others requiring monitoring through 2016. Similarly, as more stream projects with restoration and enhancement are approved and implemented the mitigation monitoring obligations will increase. In addition, corrective action on sites is an anticipated and necessary part of mitigation projects. Of the twelve constructed non-tidal wetland projects, some form of corrective action is needed on approximately one third of the projects. Managing this workload in a way that ensures the success of the mitigation sites will remain a high priority.

In 2007, the Conservancy successfully closed seventeen projects. Of these, ten of the projects provided mitigation as reported in Section V. The enabled the Fund to finalize the mitigation value of these projects, and return any authorized funds not spent for the project at the time of closure to the Fund to facilitate additional mitigation projects. Officially closing completed projects will help guide the Conservancy in prioritizing the basins with high mitigation need, while allowing the program to analyze the available remaining balance for each basin.

Approximately one-third of the approved projects have been identified in this report as “pending project closure” meaning that the projects may be officially closed. Nineteen of the projects pending closure either require a delineation of surface waters and wetlands, or must have a

wetland assessment completed to verify wetland acres, or are awaiting Corps confirmation. The remaining eight projects have completed all the requirements for project closure. These project closure and delineation efforts represent a large amount of coordination and field time respectively.

Attachment A. Map of Project Locations within River Basins

Included as a stand-alone document – filename: *2007 Report - Attachment A - [11x17].jpg.*

Attachment B. Map of Northwest River Conservation Corridor

Included as a stand-alone document – filename: *2007 Report - Attachment B - [8.5x11].jpg.*

Attachment C. Approved Project Table

Included as a stand-alone document – filename: *2007 Report - Attachment C.pdf.*

Attachment D. Project Summaries within River Basins

Included as a stand-along document – filename: *2007 Report – Attachment D.pdf*